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ABSTRACT

This three-year project was designed to explore ways in which state coordinating boards and multicampus boards can support institutional restructuring and gain commitment from state and institutional officials for higher education reform. Six states--Virginia, Minnesota, Tennessee, Oregon, Florida, and Georgia--each undertook a significant postsecondary reform effort and allowed the State Higher Education Executive Officers project staff to observe and analyze the agencies' process of gaining commitment to change. State strategies ranged from broad-based restructuring efforts to targeted programs intended to stimulate innovation among campuses and faculty. Minnesota's project examined issues related to distance education and instructional technologies; Virginia, facing budget cuts and increasing enrollments, began a series of campus-based and state-led restructuring initiatives; Tennessee conducted a study of the systemwide academic program inventory; Oregon evaluated 24 state-funded projects designed to improve student learning productivity through technology; Florida explored alternative ways to deliver high-demand undergraduate courses that were causing enrollment bottlenecks; and the Georgia project involved development of fiscal policy for distance education. Appended are descriptions of each state project, its setting, specific activities, and project impact. Also appended are five issues of the project's REDESIGN newsletter, designed to be a forum for discussion of public policy issues facing the states. (CH)

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ED 413 837

Grantee Organization:

State Higher Education Executive Officers
707 17th Street, Suite 2700
Denver, Colorado 80202-3427

Grant Number:

P116A31876

Project Dates:

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Ending Date: August 31, 1996
Number of Months: 36

Project Director:

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Grant Award:	Year 1	$ 73,640
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	Year 3	$ 78,530
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Summary

This three-year project, designed to promote state strategies for higher education reform, involved several SHEEO members as pilot states. Virginia, Minnesota, Tennessee, Oregon, Florida, and Georgia each undertook a significant postsecondary reform effort. The states were awarded mini-grants of approximately $10,000 to support their redesign initiatives and to allow the project staff to observe and analyze the agencies' process of gaining commitment to change. The state strategies ranged from broad-based restructuring efforts to targeted programs intended to stimulate innovation among campuses and faculty. Major themes included (1) expanded roles for SHEEOs as collaborators and consensus builders, (2) technology as an "occasion" to reach new constituencies and to reexamine pedagogy, and (3) fiscal uncertainty as a force for change.

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Project newsletter: *Redesign*

Executive Summary

Project Title: Gaining State Commitment to a Redesigned Delivery System

Grantee Organization:

State Higher Education Executive Officers
707 17th Street, Suite 2700
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A. Project Overview

In September 1993, SHEEO embarked on an ambitious project to examine and support state efforts to redesign their higher education delivery systems. Over the course of the three year time period, six states participated in the project by sharing with us their insights and opportunities which came about through a variety of redesign initiatives. State higher education agencies in Virginia, Minnesota, Tennessee, Oregon, Florida, and Georgia each undertook significant reform efforts ranging from broad-based, statewide restructuring to targeted programs intended to stimulate innovation among campuses and faculty. The states were awarded mini-grants of approximately $10,000 each to support their redesign initiatives and to allow the project staff to observe and analyze the agencies' process of gaining commitment to change. Some of the major findings emerging from the study include: (1) expanded roles for SHEEOs as collaborators and consensus-builders, (2) the advent of new technologies used as an "occasion" to reach new student populations and to reexamine pedagogy, and (3) fiscal uncertainty as a preeminent force for change.

B. Purpose

The purpose of the study, as described in our original proposal, was to "explore ways in which state coordinating boards and multicampus system boards can support institutions in their internal restructuring so that higher education access can be maintained and student learning can be enhanced." A second objective, which is reflected in the project title, was to gain commitment from state and institutional officials to restructuring higher education delivery systems. To achieve these objectives, our strategy was to involve states that were ripe for change because of fiscal stress; take the strategies which were already on the agenda of those states and broaden and deepen them through involvement in this national project. Finally, together with the state participants, we would work toward the acceptance of these strategies by both institutions and political leaders.

C. Background and Origins

The origins of this project stemmed from a realization that under the circumstances of rising enrollments and shrinking resources, it would no longer be possible for higher education to continue business as usual. The recession of the early 1990s had a dramatic impact on public colleges and universities. Cutbacks in state support led to substantial increases in tuition, to the elimination of academic programs, and to the limiting of access. While some observers predicted these conditions as only temporary (and indeed they have improved somewhat in 1996), most evidence suggests that state finances will remain constrained by structural factors. At the beginning of this project, a widely held belief/hope among policymakers and many educators was that information technology could provide cost-effective solutions to the problem of access to higher education. In addition to rapidly developing technologies, fiscal and political pressures in the states soon began to prompt concern about the appropriate role for SHEEO agencies. Traditionally regulatory in nature, SHEEOs were facing new questions regarding a host of policy issues that were being challenged or "exploded" in this new environment. Although each of the six states brought to this project a unique context and project setting, the above conditions generally applied to all. These external conditions, all of which suggested an *internal* change agenda for higher education, set the stage for our project in 1993.

D. Project Descriptions

The primary Denver-based project activities included selection of the pilot states, providing overall direction and technical assistance to the state project directors, evaluation of the overall project, and dissemination. Appendix A contains full descriptions of each state project, including information on the project setting, specific activities, and project impact. Below are brief summaries of each state report.

Minnesota: Minnesota's portion of the project was structured to examine issues, identify barriers, and build support related to the current and potential roles of distance education and instructional technologies in the reshaping of higher education. The mini-grant supported a two-year effort by the Minnesota Higher Education Coordinating Board staff to identify and understand, through a survey and regional forums, issues that would arise as postsecondary education expands the use of distance learning statewide.

Virginia: Facing serious budget cuts and increasing enrollment pressures early in the 1990s, Virginia higher education began a series of both campus-based and state-led restructuring initiatives. The State Council of Higher Education for Virginia (SCHEV) saw a need for faculty involvement if restructuring was to reach beyond rhetoric and deeper into institutional operations. For the FIPSE project, therefore, SCHEV decided to engage the faculty in discussions of restructuring proposals and initiatives. Three major activities for the FIPSE project included a series of meetings between SCHEV and faculty members on public campuses across the state and a statewide Faculty Forum on New Approaches to Teaching and Learning.

Tennessee: As part of the SHEEO/FIPSE project, the Tennessee Higher Education Commission (THEC) conducted a study of the systemwide academic program inventory. A second major activity of Tennessee's SHEEO/FIPSE project was the work of a task force created to look at incentives for improvement of efficiency and effectiveness. A series of white papers were produced, the main theme of which was to identify critical areas of operation, make suggestions for improvement, and suggest incentives for improvement. A statewide meeting of campus personnel was convened on December 15, 1994 to study and comment on the papers.

Oregon: The Oregon State System of Higher Education (OSSHE) used the SHEEO/FIPSE project to evaluate 24 state-funded projects designed to improve student learning productivity through technology. OSSHE contracted with Dr. Peter T. Ewell to evaluate these projects and provide suggestions for future state investments. The 24 productivity projects ranged from faculty training programs to curricular enhancements to complete course redesign in the following areas (all undergraduate): physics, biology, mathematics, philosophy, statistics, foreign language, and science for non-science majors.

Florida: The Florida Postsecondary Education Planning Commission (PEPC) used the FIPSE project as an opportunity to explore alternative ways to deliver "high demand" undergraduate courses that can cause enrollment "bottlenecks" in the lower division curriculum. The project was named IATT (Improving Access Through Technology), and its goal was to enhance student progress and success through the effective use of technology. Major activities included identification of the contributing cause of the problem to be addressed; a statewide faculty forum; and identification of potential pilot institutions and vendors for development of effective technology-based strategies to improve the flow of students through bottleneck courses.

Georgia: The purpose of Georgia's SHEEO/FIPSE project was to assist the Board of Regents' Ad Hoc Committee on Distance Learning and Instructional Technology in developing forward looking fiscal policy for distance education. The committee developed a set of eight major policy questions, which covered topics concerning organizational structure, pricing of distance education courses and programs, and faculty and institutional incentives. A group of external consultants with expertise on higher education fiscal policy provided formal responses to each of the eight questions using e-mail. The responses were then summarized and distributed over a listserv involving key players in the state and higher education community.

E. Evaluation/Project Results

Looking at the experiences of project states as a whole, a number of lessons can be drawn about the ability of state higher education agencies to serve as proactive "agents of change." Among them are the following: (1) widespread perception of a "clear and present danger" is a necessary condition for initial success; (2) addressing specific high-visibility problems beats focusing largely on state-level mechanisms or processes; and (3) leveraging an existing initiative (usually more powerful and often owned or initiated by somebody else) is generally better than starting a new one. Among the emerging new SHEEO functions highlighted by FIPSE project experiences were: (1) the role of a SHEEO as a "research and development" entity; (2) the role of a SHEEO as "convener"; and (3) the role of a SHEEO as "vision creator" and "issue champion." Taken together, results of the FIPSE project suggest that even modest resources invested in a concrete demonstration of the ways SHEEO's can help foster changes in instructional delivery can pay substantial dividends. But they also underline the importance of continuing to sustain these precarious emerging roles in a time of considerable stress and uncertainty for state higher education agencies.

F. Summary and Conclusions

Each of the six pilot states has taught us lessons about the role of SHEEOs in supporting state and campus-based restructuring. Not only did the six states learn and benefit from participation in this project, but so did the wider membership through numerous dissemination efforts, most visibly the *Redesign* newsletter. SHEEO, as a national organization, has achieved greater awareness among member states of the ways in which state agencies can influence change in their higher education delivery systems. But there is still much work to be done. "Redesign" has become fully integrated into SHEEO's ongoing purposes because the environmental conditions that inspired this project have not dissipated. Into the foreseeable future, we expect to continue debating and communicating redesign strategies among the membership. The FIPSE project was fundamental in laying the groundwork for this important SHEEO activity.

SHEEO STATE HIGHER EDUCATION EXECUTIVE OFFICERS

SHEEO/FIPSE Project
Gaining State Commitment to a Redesigned Delivery System
September 1993 -- August 1996

FINAL REPORT
November 1996

A. Project Overview

In September 1993, SHEEO embarked on an ambitious project to examine and support state efforts to redesign their higher education delivery systems. Over the course of the three year time period, six states participated in the project by sharing with us their insights and opportunities which came about through a variety of redesign initiatives. State higher education agencies in Virginia, Minnesota, Tennessee, Oregon, Florida, and Georgia each undertook significant reform efforts ranging from broad-based, statewide restructuring to targeted programs intended to stimulate innovation among campuses and faculty. The states were awarded mini-grants of approximately $10,000 each to support their redesign initiatives and to allow the project staff to observe and analyze the agencies' process of gaining commitment to change.

Some of the major findings emerging from the study include: (1) expanded roles for SHEEOs as collaborators and consensus-builders, (2) the advent of new technologies used as an "occasion" to reach new student populations and to reexamine pedagogy, and (3) fiscal uncertainty as a preeminent force for change. The project ended in August 1996 with a facilitated discussion among key project players, which took place during the annual SHEEO meeting of chief academic and government relations officers. This presentation was one of many venues we have used over the three years to disseminate our project work and engage the broader SHEEO membership.

B. Purpose

The problem we proposed to address in this project was initially defined in terms of the increasing demands being placed upon colleges and universities at a time of stagnant or shrinking resources. The purpose of the study, as described in our original proposal, was to "explore ways in which state coordinating boards and multicampus system boards can support institutions in their internal restructuring so that higher education access can be maintained and student learning can be enhanced." A second objective, which is reflected in the project title, was to gain commitment from state and institutional officials to restructuring higher education delivery systems. To achieve these objectives, our strategy was to involve states that were ripe for change because of fiscal stress; take the strategies which were already on the agenda of those states and broaden and deepen them through involvement in this national project. Finally, together with the state participants, we would work toward the acceptance of these strategies by both institutions and political leaders.

As the first year of the project unfolded, our understanding of the project's purpose and objectives shifted somewhat. While we initially had expected to evaluate the relative merits of each pilot state's "redesign" strategy and its ability to simultaneously extend access and lower costs, we recognized that the process by which state boards were gaining commitment to these redesign proposals was equally important. The focus of the study shifted to the SHEEO organizations themselves, and how their roles had expanded from mere regulators to change-agents. While the project still aimed to provide states an opportunity to gain state and institutional support, its purpose became less a tool of transformation than a window to observe and learn from an ongoing change process in the six states.

C. Background and Origins

The origins of this project stemmed from a realization that under the circumstances of rising enrollments and shrinking resources, it would no longer be possible for higher education to continue business as usual. The recession of the early 1990s had a dramatic impact on public colleges and universities. Cutbacks in state support earlier in the decade led to substantial increases in tuition, to the elimination of academic programs, and to the limiting of access. While some observers predicted these conditions as only temporary (and indeed they have improved somewhat in 1996), most evidence suggests that state finances will remain constrained by structural factors. Spending on programs such as Medicaid and corrections continues to grow while higher education's share of state budgets has decreased. Similarly, elementary and secondary education remains a high priority for state leaders. At the same time, prospects for increased public support are limited by a growing resistance to state and local tax increases. Throughout the first half of the decade, many state governments turned to tuition increases as a solution to this revenue dilemma. But institutions, after years of raising tuition at double-digit rates, are increasingly constrained from further dramatic increases by public resistance and students' ability to pay.

At the beginning of this project, a widely held belief/hope among policymakers and many educators was that information technology could provide cost-effective solutions to the problem of access to higher education. The most common examples of technology deployment at that time involved some form of electronic instructional delivery to students in remote locations. This mode of delivery typically came in the form of one-way or two-way video used to connect students and instructors in real time. "Distance education," as it is called, became a focus of interest and considerable investment among state legislators. With so much interest among the states in this new technology (not to mention controversy among faculty and campuses), we selected several SHEEOs with major statewide initiatives in this area to participate in our study. As the project evolved, so did the focus on technology evolve from merely "distance education" to numerous applications of technology both on and off campus.

Rapidly developing technologies and concurrent fiscal pressures in the states soon began to prompt concern about the appropriate role for SHEEO agencies. Traditionally regulatory in nature, SHEEOs were facing new questions regarding a host of policy issues that were being challenged or "exploded" in this new environment. Well-established policies in areas such as program duplication, service areas, space guidelines, funding formulas, and even institutional missions were called into question. In various states, SHEEOs were experimenting with new policy approaches focusing more on outcomes than regulatory procedures. Examples included incentive funding, cross-sector collaboration on a variety of issues from job-training to technology, and in some cases the creation of new institutions with designated missions for technology-based instructional delivery.

Although each of the six states brought to this project a unique context and project setting, the above conditions generally applied to all. These external conditions, all of which suggested an *internal* change agenda for higher education, set the stage for our project in 1993. In 1996, at the conclusion of the study, most of these pressures continue unabated. Notable differences are that institutions have experienced some relief from cuts in state appropriations; information technology and its various applications have advanced at an astonishing rate although it has yet to prove its cost-effectiveness; and finally, we have seen many institutions rise to the challenge of internal restructuring to meet the new demands. State higher education agencies (SHEEOs), as seen through this project, have supported this internal campus restructuring in creative ways. In the process, SHEEOs themselves have rethought their own ways of doing business and found new ways to "do more with less."

D. Project Descriptions

The primary Denver-based project activities included selection of the pilot states, providing overall direction and technical assistance to the state project directors, evaluation of the overall project, and dissemination.

Pilot state selection: In selecting the Phase I pilot states, we used a number of criteria including (1) fiscal uncertainty in the state, (2) an existing statewide "redesign" plan for higher education, and (3) an interest and willingness to participate in the project. The first states--Minnesota, Virginia, and Tennessee--were chosen by the project staff based on these criteria. For Phase II, we implemented a more rigorous process of selection. SHEEO issued a "Request for Proposals" to the entire membership outlining several criteria based on our findings from Phase I. These criteria included (1) a project that addressed cost-effective delivery and/or learning productivity, (2) a project that engaged new SHEEO constituencies using new consultative processes, (3) a project that involved collaboration among multiple institutions, sectors of government, or private industry, and finally, (4) serious board commitment to carry out the project. Ten proposals were received, from which we selected SHEEO agencies in Oregon, Florida, and Georgia.

Overall direction and evaluation: Two major events for the project were state project directors' meetings held in September 1993 for Phase I states, and in January 1995 for both Phase I and Phase II states. The purpose of these meetings was to assist the state directors in developing and refining their redesign plans, and to suggest new ideas to both broaden and deepen their thinking about the project. The January 1995 meeting, held in New Orleans, served as a transition between Phase I and II. Our project evaluator used the occasion to help the pilot state directors reflect on their projects by facilitating a discussion on the nature of redesigned delivery systems. In addition to the two project directors meetings, SHEEO staff and the project evaluator attended and helped plan numerous meetings within each state to build support for the various redesign initiatives.

Dissemination: Our primary dissemination tool has been a project newsletter named *Redesign*. Among other things, the newsletter included updates on the pilot state projects, highlights of restructuring initiatives in other SHEEO member states, and focused articles on a variety of redesign topics. In total, four full issues were published and one shorter version focused on "time-to-degree" (See Appendix B). We plan to publish a sixth issue which will highlight the final report and communicate the project findings to the wider SHEEO membership. *Redesign* has received very favorable responses from SHEEO members, institutional representatives, policymakers; and was featured in a *Chronicle of Higher Education* article in summer of 1994. In addition to the *Redesign* newsletter, we have disseminated the project work by including redesign themes in each of the summer meetings sponsored by SHEEO for the executive, finance, academic, and government relations officers in member states.

State Projects: Appendix A contains full descriptions of each state project, including information on the project setting, specific activities, and project impact. Below are brief summaries of each state report.

Minnesota

Minnesota's portion of the project was structured to examine issues, identify barriers, and build support related to the current and potential roles of distance education and instructional technologies in the reshaping of higher education. The mini-grant supported a two-year effort by the Minnesota Higher Education Coordinating Board staff to identify and understand issues that would arise as postsecondary education expands the use of distance learning. The goal of the Minnesota SHEEO/FIPSE project was to help the state identify and resolve policy issues related to the expansion of distance learning. It was designed to parallel the development of infrastructure and other coordinating board initiatives involving alternative learning approaches. The Minnesota project had five components:

1) the development of different scenarios of what technology and "distance education" might look like in the future;
2) a survey of students, faculty, support staff, and administrators asking their response to four scenarios;
3) the creation of a document outlining the most likely future for Minnesota in light of the survey responses;
4) regional forums both to publicize and clarify the survey results and to discuss the "most likely future" that resulted; and
5) a forum to discuss the results of this process with policymakers.

The major impact of the project was to inform discussions of legislative and board initiatives related to distance learning and the restructuring of higher education. Through this project, board members, higher education leaders, and at least a sample of faculty and staff have been pushed to examine critical issues and values in the delivery of higher education. The staff of the coordinating board believed that the project represented a consensus-building effort, and that a productive conversation and even some degree of consensus was achieved--although it may be slower to achieve full implementation now that the governance of the public postsecondary system had been restructured and the statewide coordinating board abolished.

Virginia

Facing serious budget cuts and increasing enrollment pressures early in the 1990s, Virginia higher education began a series of both campus-based and state-led restructuring initiatives. In addition, the legislature passed a bill in early 1994 that mandated each public institution of higher education in the state to submit a plan for institutional restructuring. The State Council of Higher Education for Virginia (SCHEV) saw a need for faculty involvement if restructuring was to reach beyond rhetoric and deeper into institutional operations. For the FIPSE project, therefore, SCHEV decided to engage the faculty in discussions of restructuring proposals and initiatives. This strategy was a substantial departure from traditional practices of statewide coordinating boards. Faculty in most states have little knowledge of coordinating boards, let alone how their policies ultimately affect them. Institutional administrators most often serve as the link to a state coordinating agency. Three major activities for the FIPSE project included a series of meetings between SCHEV and faculty members on public campuses across the state, the design and maintenance of an electronic listprocessor to continue these discussions with faculty, and a statewide Faculty Forum on New Approaches to Teaching and Learning.

Taken together with all of Virginia's restructuring initiatives, the FIPSE project has been part of a statewide restructuring effort with far-reaching implications for higher education in Virginia. Project Director Peg Miller stated, "If the [faculty] discussions have had no dramatic effect on the decisions we make, they have sensitized us to faculty mood and the impact of our actions on those people without whose cooperation any restructuring is doomed." Significantly, SCHEV has already used this same approach with other issues, indicating this process may become "business as usual" for the council. The same faculty groups were later consulted on a list of proposed indicators of institutional effectiveness.

Tennessee

In the 25-plus year history of the Tennessee Higher Education Commission (THEC), several efforts have been made to reduce program duplication. These efforts have resulted in some reduction in the number of programs but have made few inroads into the reduction of the most expensive duplicated programs. Low-producing programs have been regularly eliminated due to comprehensive program review policies of the state's two governing boards. THEC staff determined that, as part of the SHEEO/FIPSE project, they would conduct a study of the academic program inventory in cooperation with governing board staff and campus academic staff. A major conclusion from the study was that the problem of low-producing programs was under control due to the extensive review processes of the governing boards.

A second major activity of Tennessee's SHEEO/FIPSE project was the work of a task force created to look at incentives for improvement of efficiency and effectiveness. In the spring of 1994, this task force was appointed and assigned itself the task of developing a series of white papers addressing critical areas affecting the operation of the state's higher education system. The main theme of the papers was to identify critical areas of operation, make suggestions for improvement, and suggest incentives for improvement. A statewide meeting of campus personnel was convened on December 15, 1994 to study and comment on the papers, and was attended by representatives from THEC staff, both governing boards, campus administrators, faculty, and students.

The Tennessee project resulted in (1) the generation of ideas for program and institutional efficiencies, (2) a cooperative venture involving Commission, board, and campus staff, (3) content for two other statewide activities: development of a new five-year master plan and an on-going study of unnecessary program duplication, and (4) a set of idea papers which were published and intended to serve as a guide for campus plans to make hard decisions on efficiency and effectiveness.

Oregon

The Oregon State System of Higher Education (OSSHE) used the SHEEO/FIPSE project to evaluate 24 state-funded projects designed to improve student learning productivity through technology. OSSHE contracted with Dr. Peter T. Ewell, who also served as the overall FIPSE project evaluator, to evaluate these projects and provide suggestions for future state investments. The 24 productivity projects ranged from faculty training programs to curricular enhancements to complete course redesign in the following areas (all undergraduate): physics, biology, mathematics, philosophy, statistics, foreign language, and science for non-science majors.

All 24 project directors responded to a written survey, which served as a "meta-analysis" of all projects. Five of the 24 projects were then selected for site visits and an in-depth review by Ewell. Based on these visits and a review of the written materials provided by all project directors, Ewell presented his evaluation findings at a Statewide Forum on Educational Productivity in January 1996, which was sponsored by OSSHE. The forum was broadcast over Oregon Ed-Net where over 100 participants discussed the project findings. OSSHE has subsequently used the evaluation findings to target an additional $500,000 toward ten "second generation" seed projects.

As a result of the productivity projects, OSSHE is now doing several things differently: new language has been added to faculty tenure and promotion guidelines with attention to technology at each campus; more attention is being paid to copyright and intellectual property issues; new instructional design staff have been added at many campuses; provosts have agreed on a common calendar to facilitate sharing of electronically delivered courses; there is a better climate for discussing restructuring; evaluation findings were used in legislative requests; and technology fees are in place at all campuses beginning fall 1996.

Florida

The Florida Postsecondary Education Planning Commission (PEPC) used the FIPSE project as an opportunity to explore alternative ways to deliver "high demand" undergraduate courses that can cause enrollment "bottlenecks" in the lower division curriculum. The project was named IATT (Improving Access Through Technology), and its goal was to enhance student progress and success through the effective use of technology. Major activities included identification of the contributing cause of the problem to be addressed; visits to selected community colleges and universities to gain an institutional perspective on both the issue of bottleneck courses and potential solutions; a statewide faculty forum held in cooperation with SHEEO and the Florida Higher Education Consortium for Mathematics and Science; and identification of potential pilot institutions and vendors for development and documentation of effective technology-based strategies to improve the flow of students through bottleneck courses.

The 1996 Legislature appropriated $15.4 million for public postsecondary distance learning initiatives but did not specify how the money was to be used. This will be determined by the Florida Distance Learning Network, a statutory oversight group with representatives from education, government, and industry. Proposed allocations developed jointly by the state university and community college systems include addressing bottleneck courses as part of an $8 million proposal to promote access to undergraduate degrees. A "request for proposals" related to the bottleneck course issue has been developed based on the work of the IATT Steering Committee and faculty resource groups. The IATT project was also presented at several major state and national conferences throughout 1996.

Georgia

The purpose of Georgia's SHEEO/FIPSE project was to assist the Board of Regents' Ad Hoc Committee on Distance Learning and Instructional Technology in developing forward looking fiscal policy for distance education. The planned approach was to use consultants to work with the committee to develop policy recommendations and invite participation of the state Office of Planning and Budget, the state Department of Education, the state Department of Technical and Adult Education, the Georgia Public Telecommunications Commission and the state Department of Public Libraries.

During several meetings in 1995 and early 1996, the committee vigorously debated the central fiscal issues with little agreement on how consultants could be best used to develop specific recommendations. From these meetings, it was determined instead that a forum on the issues involving a broad-based group of external consultants and selective internal constituencies might be a better approach to surface ideas and clarify issues. The committee developed a set of eight major policy questions, which covered topics concerning organizational structure, pricing of distance education courses and programs, relationship to formula funding and other methods of budgeting, faculty and institutional incentives and responsibility for support of the technology infrastructure.

During the summer of 1996, a group of external consultants with knowledge and expertise on higher education fiscal policy were asked to provide a formal response to each of the eight questions, which most did using e-mail. The responses were then summarized and distributed over a listserv with registration restricted to members of the Ad Hoc Committee, key University System of Georgia administrators, and representatives of the Office of Planning and Budget and the Legislative Budget Office. The use of the listserv helped generate significant dialogue on the eight policy questions posed by the committee. Results from this dialogue will be used to inform the committee when it makes its final recommendations regarding fiscal policy and is expected to lead to more thoughtful and comprehensive policy for the Board of Regents.

E. Evaluation/Project Results *(by Peter T. Ewell, external project evaluator)*

The FIPSE project's central purpose of fostering a new role for State Higher Education Agencies in helping to restructure educational delivery was rooted in conditions affecting the vast majority of states when the project was launched some three years ago. Among these were, 1) the need to accommodate anticipated enrollment increases with fixed or declining revenues, 2) frequent calls to evolve a "re-invented" approach to government based on entrepreneurship and deregulation and, 3) a growing conviction on the part of many constituencies that "technology" held the key to addressing escalating productivity dilemmas in higher education. Three years later, these remain prominent issues for all states. But the interactions among them have become more complex. Experiences of the six participating FIPSE states illustrate these complexities and suggest a number of emerging lessons about how states might deal with them. They also substantiate the fact that even modest levels of resources, invested on the margins in supporting transformation, can have a considerable impact.

One prominent point of tension experienced by participating states was between the first and second conditions originally motivating the project: the need to restructure to achieve greater "learning productivity" and the simultaneous emergence of new approaches to government. Project experience sustained the proposition that SHEEO agencies can indeed play a leading role in developing strategies to meet new productivity demands. But their very existence as "established players" may in the short run be threatened by "re-invented" approaches to government. In the wake of the 1994 elections, political circumstances in many states changed drastically. As government agencies, SHEEO's frequently found themselves heavily on the defensive--perceived as unnecessary, bureaucratic, and expensive. While FIPSE project states were not affected equally by these trends, for several of them this impact was decisive. By the project's end, the Minnesota Higher Education Coordinating Board (MHECB) had been abolished, the Tennessee Higher Education Commission (THEC) had experienced a significant change in leadership as well as direct intervention from the governor's office, and the State Council on Higher Education in Virginia (SCHEV) had suffered serious budget cuts. On the one hand, such turmoil severely constrained the ability of SHEEO agencies to fulfill the "change agent" role that the FIPSE project originally envisioned. On the other, it rendered the evolution of a far different approach to the SHEEO role imperative--if only to ensure long-term agency survival.

Another point of tension experienced by participating states was between the first and third of the project's original motivating conditions: productivity demands and the promise of technology. On the one hand, state policymakers are, if anything, more convinced now than they were three years ago that technology represents the "magic bullet" needed to slay the "cost-of-instruction dragon." This conviction puts enormous pressure on state higher education officials to quickly launch technology initiatives, often without thorough examination and with unrealistic expectations about quick returns. In contrast, lessons of the FIPSE project suggest strongly that "redesigned higher education delivery systems" require far more than the application of new technology. Certainly, most participating states became deeply engaged in conversations about technology in the course of the project, and even more convinced of its potential. But the focus of these conversations in states like Oregon, Virginia, and Florida shifted noticeably away from the use of technology per se toward broader issues of pedagogy and instructional design. Indeed, a prominent theme across most participants was how technology can be used by state higher education officials as an important "occasion" for raising more basic issues of pedagogy and resource allocation in new ways and on a comprehensive basis.

Looking at the experiences of project states as a whole, moreover, a number of more specific lessons can be drawn about the ability of state higher education agencies to serve as proactive "agents of change." Among them are the following:

(1) ***Widespread perception of a "clear and present danger" is a necessary condition for initial success.*** While all state participants benefited to some degree from project-funded activities, some clearly were able to carry the conversation further than others. For the most part, this occurred in state environments with unusually pressing fiscal circumstances. In both Virginia and Oregon, cumulative declines in public funds for higher education totaled more than 25% in the period immediately preceding the FIPSE project, and both states were already heavily engaged in what were seen as unavoidable actions intended to restructure delivery. While not so immediately pressed, Florida also faced the prospect of a 40% increase in undergraduate enrollment with no significant additions in state support. In all three states, these conditions provided SHEEO's with an opportunity to engage in concrete conversations about restructuring that encountered fewer objections from institutions and boards about "why is this really needed?" In contrast, Tennessee and Georgia were in the far more "favorable" position of not being under immediate financial pressure. Indeed, the latter was experiencing the benefits of an unusually high level of support for technology-based enhancement of its higher education system. This meant that project initiatives could be pursued with confidence, but it also rendered them much less imperative. Both states, in general, did not get as far on their agendas as those that could legitimately claim greater urgency. State agencies, of course, have little control over such circumstances and it would certainly not be appropriate to enjoin them to create crises in order to mobilize support for change. But it remains notable that the degree of consensus present in each state about the degree to which a major problem existed did strongly affect its ability to pursue project objectives.

(2) ***Addressing specific high-visibility problems beats focusing largely on state-level mechanisms or processes.*** Somewhat similarly, states that organized FIPSE project activities around the solution of particular problems of instructional organization and delivery--or that developed such a focus in the course of their projects--got farther than those that remained

centered on modifying state policies and procedures. Florida's project was particularly notable in this regard. Its choice of problem--high-volume "bottleneck" undergraduate courses--allowed it to pursue particular technology solutions in a multi-institutional context and with a compelling rationale for doing so. In Oregon, moreover, the evaluations of innovation projects conducted with FIPSE support uncovered a critical shift of attention on the part of both faculty and institutions from technological "means" to the academic "ends" to be accomplished. Although many of the "productivity projects" funded by the Oregon State System of Higher Education (OSSHE) began as efforts to "use technology," lasting impact occurred principally in those that led to more fundamental considerations of pedagogy and curricular structure. Using the evaluation results, OSSHE was able to further such conversations far more effectively. Often for good or unavoidable reasons, other states centered their FIPSE-funded activities on altering state-level procedures. For example, Tennessee's project initially concentrated on modifying its well-established performance-funding system to provide institutions with incentives to reduce program inventory, while Georgia's examined ways to modify its funding formula to better accommodate distance-learning coursework. Both were useful efforts, but both were less grounded in what the higher education community felt was a compelling need to change. More significantly, both became heavily entangled in wider political and structural issues surrounding the resource allocation process itself, that had little to do with original project agendas.

(3) ***Leveraging an existing initiative (usually more powerful and often owned or initiated by somebody else) is generally better than starting a new one.*** Several of the FIPSE projects were structurally embedded in wider sets of activities that were outside the control of the SHEEO agency--or could be used to quickly bridge to such broader activities. In Minnesota, a primary objective was to keep higher education issues visible on the agenda of the state's powerful new Telecommunications Council and therefore integrated into an overall statewide technology plan--an objective that the MHECB could not have pursued alone. In Florida, the Postsecondary Education Planning Commission (PEPC) has no real authority of its own, but effectively used results of its FIPSE-funded "bottleneck course" study to shape the agenda for an emerging legislatively-created, and quite well-funded, Florida Distance Learning Network (FDLN). In other cases, the FIPSE project was used to leverage a wider initiative already established by the SHEEO agency itself. Prominent examples here are Oregon, in which FIPSE funds were dedicated to determining the lessons learned from several million dollars previously invested in innovation (and to help set priorities for further investments of this kind); and Virginia, where FIPSE activities were directly linked to the state's visible higher education restructuring initiative. To some extent, of course, the relatively small levels of funding available to states through the FIPSE project precluded "independent" change efforts and, indeed, participation guidelines emphasized the inclusion of states that were "ripe for change." But project success in most cases was directly related to a given state's ability to keep the FIPSE effort an integral part of a wider change agenda.

Consistent with the goals of the project, participating SHEEO agencies also experienced alterations in the ways they themselves did business. On the one hand, "deregulatory" attacks (and in many cases, their own inclinations) were strongly inducing SHEEO's to de-emphasize traditional oversight and review functions. More positively, many SHEEO's found that the role of "change agent" required placing greater emphasis on less-well-established functions that were "layered-in" on top of more traditional roles. Among the emerging functions highlighted by FIPSE project participation were:

(1) ***the role of a SHEEO as a "research and development" entity.*** Several participants effectively used information as a lever for change--highlighting the potential of an enhanced "research and development" role for state higher education agencies. Florida's PEPC, of course, is already charged explicitly with this function, and its use of FIPSE funds to gather data on an important problem, then convene the appropriate parties-at-interest to help address it effectively, provides an excellent illustration of how concrete data can be used to induce concerted action. Minnesota's project also emphasized information-gathering--in this case about the different implications of alternative futures for distance-education across the state. In this case, severe political constraints limited the contribution that MHECB could make in any other arena, and the "research function" added considerable value. In Oregon, moreover, data-gathering on the lessons learned in OSSHE-funded productivity projects provided substantive focus for a statewide meeting to develop future directions; while in Virginia, topics discussed during the various faculty focus-groups conducted under project auspices helped the State Council to surface a range of innovations that were already under way, and to develop mechanisms to further foster and showcase such activities. Taken together, these experiences suggest a promising future role for SHEEO agencies in, 1) providing direct incentives for experimentation in instructional delivery (as in Oregon and Florida), 2) identifying "best practice" through research on impact and/or systematically gathering input from experts and affected constituencies (as in Oregon, Virginia, Minnesota, and Tennessee), and 3) attempting to institutionalize best practice in the form of changed incentives and structures (as in Georgia, Tennessee, Virginia, and Oregon).

(2) ***the role of a SHEEO as "convener."*** Another prominent role played by project participants was that of directly bringing together varied constituencies to discuss innovations in instructional delivery and how these might be further developed. A good illustration was

Virginia's unexpectedly-well-attended statewide Faculty Forum on New Approaches to Teaching and Learning. Although the State Council had served as a "convener" before (most notably as part of its assessment initiative), sponsoring a gathering that consisted overwhelmingly of faculty helped to capstone a project that was centered on enhancing lines of communication between line faculty and state-agency personnel. Oregon, Florida, and Georgia also made effective use of statewide conferences, sponsored directly or indirectly by the SHEEO agency, to showcase innovation and to facilitate information exchange among those laboring directly at the institutional level to transform instructional delivery. All four of these efforts are notable because they represent direct engagement on the part of a state agency in discussions of pedagogical issues. The Tennessee and Minnesota experiences, in turn, illustrate a more established SHEEO "convener" role--that of bringing together institutional representatives to discuss the potential impact and direction of contemplated changes in state policy. Both types of convening roles are likely to grow in prominence for SHEEO's as their direct regulatory functions diminish.

(3) the role of a SHEEO as "vision creator" and "issue champion." Above all, project experience sustained the proposition that SHEEO agencies can be effective in forcing statewide attention to the topic of instructional transformation. Rather than "coordinating" existing initiatives and leaving it entirely to institutions to develop innovation, the emphasis here is on identifying issues that affect all institutions and that reflect state need, and seeking every opportunity to promote the importance of these issues. Florida's use of "bottleneck courses" to raise attention to a critical common problem, Minnesota's consistent role in keeping higher education "present at the table" in statewide discussions of technology, and Oregon's active use of incentive dollars to help foster local innovation all illustrate this role effectively. At the same time, agency impact can be amplified if the issues so identified are themselves embedded in a wider vision of how a "reconstructed" system of delivery might operate. Virginia's linkage of FIPSE project activities with its larger restructuring initiative--shaped in turn by the Council's previously-articulated "University of the Twenty-First Century" vision statement--is especially exemplary in this respect. Both kinds of experience suggest a future role for SHEEO's that resembles in many ways the transformed leadership model being currently advocated by those organizations heavily engaged in restructuring and continuous quality improvement in the private sector--a role founded on vision-creation, establishing an appropriate array of incentives, and spanning lateral organizational boundaries, far more than on traditional "command and control" functions.

Taken together, results of the FIPSE project suggest that even modest resources invested in a concrete demonstration of the ways SHEEO's can help foster changes in instructional delivery can pay substantial dividends. But they also underline the importance of continuing to sustain these precarious emerging roles in a time of considerable stress and uncertainty for state higher education agencies. Several participating states explicitly pointed out the difficulty of keeping the kinds of initiatives spawned by the FIPSE project moving after the project's conclusion. Competing operational priorities and the need to meet growing threats to sheer political survival reinforce the need for dedicated resources to sustain such an effort in the long run.

F. Summary and Conclusions

As stated earlier, the primary goal of the SHEEO/FIPSE project was to explore ways in which state coordinating boards and multicampus system boards can support institutions in their internal restructuring so that higher education access can be maintained and student learning can be enhanced. We're confident that this objective has been achieved. Each of the six pilot states has taught us lessons about the role of SHEEOs in supporting state and campus-based restructuring. Not only did the six states learn and benefit from participation in this project, but so did the wider membership through numerous dissemination efforts, most visibly the *Redesign* newsletter. SHEEO, as a national organization, has achieved greater awareness among member states of the ways in which state agencies can influence change in their higher education delivery systems. But there is still much work to be done. "Redesign" has become fully integrated into SHEEO's ongoing purposes because the environmental conditions that inspired this project have not dissipated. Into the foreseeable future, we expect to continue debating and communicating redesign strategies among the membership. The FIPSE project was fundamental in laying the groundwork for this important SHEEO activity.

Appendix A

State Reports

SHEEO/FIPSE Project Report

Minnesota Higher Education Coordinating Board (MHECB)
(Now Minnesota Higher Education Services Office)

Project Duration: September 1993 - March 1995
State Project Director: Joseph P. Graba

A. Project Setting

1. Coordinating Board Structure - Prior to July 1995, the Minnesota Higher Education Coordinating Board consisted of 11 members representing the general public, appointed by the governor. Its statutory responsibilities included planning and coordination for all postsecondary education in the state. Additionally, the board had responsibility for program and site approval and monitoring credit transferability. The board did not possess authority for budgetary review or program review. MHECB maintained 67 staff members (including student financial aid administration).

In 1991, the governance structure for postsecondary education in Minnesota underwent a major change. The legislature mandated a new structure, not to be implemented until July 1995, which essentially consolidated all boards under one, except the University of Minnesota. The state boards for community colleges, technical colleges, and state universities were merged and renamed the Minnesota State College and University System (MNSCU). Following the merger in 1995, the role of and need for a coordinating board came into question. The 1995 legislature abolished the coordinating board, replacing it with a smaller Minnesota Higher Education Services Office. The new services office, which still administers financial aid for the state, was given no assignment for statewide planning or policy leadership, except in two areas: technology and financial aid.

2. Political Pressure - As was the case in many states, the 1994 elections produced gains for the Republican party in the Minnesota legislature. It also began a movement to downsize state government, wherein the existence of state bureaucracies at all levels was questioned. Public sentiment toward higher education in general was positive, but institutional sentiment toward the coordinating board was hostile. It was in this spirit of reducing bureaucracy that the coordinating board was abolished in 1995.

3. Financial Pressure - For each year between Fiscal Years 1987 and 1995, the state's investment in postsecondary education as a percentage of the state general fund expenditures decreased, declining from 15.8% to 12.4% over the period. As a result, systems and institutions were relying more heavily on revenue from tuition and fees. For example, between 1992 and 1995 constant dollar state appropriations decreased by 3% while tuition increased by 5%. However, Minnesota ranks among the highest states nationally in its commitment to need-based scholarships and grants. In 1994, for example, Minnesota ranked sixth in total payments, sixth in number of awards, and fourth in estimated grant dollars per undergraduate enrollment (National Association of State Scholarship and Grant Programs).

Projected demographic changes will accelerate demand for postsecondary education. Through the year 2010, Minnesota's traditional college-age population will increase, become concentrated in the Twin Cities area, and become more racially diverse. New high school graduates reached a low point of 49,000 in 1992, with projected increases to about 65,000 by the year 2000.

4. Relationship with Constituencies in Developing Policy - As an agency with relatively weak statutory powers (e.g., no budgetary authority), MHECB's primary area of influence with constituencies was through policy leadership. Beginning in the early 1990s, the board took a leadership position especially in the area of distance learning and telecommunications. This was in part because of staff expertise and commitment, primarily from Helmut Schweiger and Joe Graba. The issue was statewide in scope, which presented a need to build consensus among constituencies for expanding the use of distance learning. The FIPSE project was designed to help build this consensus.

Legislators were divided over the amount of policy leadership the coordinating board should be able to exercise. According to MHECB staff, the house and senate were split over the appropriate role for the board. The senate wanted the board to take a proactive position by identifying key policy issues and making recommendations. The house, on the other hand, was more tied to campuses and the status quo, and thus not as friendly toward the coordinating board. "They get very uncomfortable if we bring forward new ideas that are controversial and it causes them to take heat from the campuses," said one staff member. Because legislators were not certain they wanted or needed an agency to provide policy leadership, and the two new systems were certain they *didn't*, the survival of the coordinating board became a hopeless cause.

5. Recent History - Previously mentioned events, which preceded the dissolution of the coordinating board (i.e., the merger of three systems into a consolidated governing board), placed MHECB in a tenuous position between 1991 and 1995. They continued to carry out their work, taking a lead role in telecommunications planning for the state. In 1991, the coordinating board created a group to began developing a plan for a statewide telecommunications system. The result of this group's work was a budget request to the 1993 legislature to build a statewide instructional network, for which $5 million was awarded. The 1993 legislation also created a multi-sector Telecommunications Council to set priorities and allocate the funds among regions of the state.

In 1995, the coordinating board recommended to the legislature the creation of an "alternative delivery structure" to develop and distribute course materials both within the state and outside the state. This proposal, if enacted, would have created a consortium of public and private institutions in the state to launch the effort, but eventually evolved into an "open learning" institution similar to the British Columbia Open Learning Agency in Canada. Many of the open learning concepts, such as a "credit bank," were included in the recommendation. Both houses of the legislature introduced bills to enact the proposal, but finally turned it down because of budget constraints and opposition from the campuses.

B. Project Activities

1. Major Activities - Minnesota's portion of the project was structured to examine issues, identify barriers, and build support related to the current and potential roles of distance education and instructional technologies in the reshaping of higher education. The mini-grant supported a two-year effort by the Minnesota Higher Education Coordinating Board staff to identify and understand issues that would arise as postsecondary education expands the use of distance learning. The goal of the Minnesota SHEEO/FIPSE project was to help the state identify and resolve policy issues related to the expansion of distance learning. It was designed to parallel the development of infrastructure and other coordinating board initiatives involving alternative learning approaches.

The Minnesota project had five components:

- the development of different scenarios of what technology and "distance education" might look like in the future;
- a survey of students, faculty, support staff, and administrators asking their response to four scenarios;
- the creation of a document outlining the most likely future for Minnesota in light of the survey responses;
- regional forums both to publicize and clarify the survey results and to discuss the "most likely future" that resulted; and
- a forum to discuss the results of this process with policymakers.

2. Project Role - Minnesota has a well-developed infrastructure for the delivery of distance education at the pre-K-12 level, especially secondary education. However, development of capacity for distance education at the postsecondary level has been hampered by competing demands and conflicting desires across the higher education systems in the state. At the time this project began, there was nothing in state policy that could be used to prioritize these demands and mediate the conflicting desires. In order to develop and implement public policy regarding distance education, it was deemed necessary to obtain a better picture of what distance education might be expected to accomplish and what barriers might be raised. This project was one mechanism for filling in that picture.

3. Consultant Role - A consultant, Dr. Patricia Kovel-Jarboe, was chosen to work with the board staff on this project. Dr. Kovel-Jarboe had several years of experience in developing distance education and exploring policy implications and questions related to the delivery of distance education in (primarily) traditional postsecondary institutions. In addition, she had considerable knowledge about the structure and operation of higher education in Minnesota. In consultation with the board staff, she developed all the materials associated with the project, advised on preparation and dissemination of the questionnaire, and designed the procedures used in the regional forums.

4. Project Visibility - The project was associated with other distance education-related activities of the coordinating board and thus enjoyed considerable visibility with policymakers. It was co-sponsored by the Higher Education Telecommunications Council, with representative members from all of the higher education sectors in Minnesota and the Minnesota Legislature. As a result, the project was known to most of those from the state's higher education community with an interest in distance education as well as many of those with an interest in higher education policy. Purposive sampling in the distribution of the questionnaire and broad distribution of the announcements of the regional forums contributed to a wide awareness of the project even among those not directly involved.

5. Project Impact - The major impact of the project has been to inform discussions of legislative and board initiatives related to distance learning and the restructuring of higher education. While the legislature supported the coordinating board's role by assigning to them the staffing role and leadership of the Telecommunications Council in 1993, it subsequently turned down proposals from the coordinating board to create an alternative delivery structure and credit bank. However, after the board was abolished in 1995, the legislature stripped its responsibilities for policy leadership in all but two areas, one of which is technology.

Regardless of legislative action, it seems fair to say that board members, higher education leaders, and at least a sample of faculty and staff have been pushed to examine critical issues and values in the delivery of higher education. These are issues and values that would have had to be addressed at some point, and the key contribution of the project may have been in advancing the time frame for doing so. Whether any individual participant in the process agreed or disagreed with the role for distance education that developed through this project was an important, but secondary consideration. The staff of the coordinating board believed that the project represented a consensus-building effort, and that a productive conversation and even some degree of consensus was achieved--although it may be slower to achieve full implementation without supporting legislation and now without a statewide coordinating board.

6. In Retrospect - MHECB was excited to be one of the pilot states participating in the project. As a state agency that was concerned with policy issues affecting innovation, quality, and access in higher education, MHECB did an enormous amount of work augmenting the modest grant with other resources the board had at hand. A major plus was the successful effort at bringing policymakers together to review key issues in distance education and to recommend strategies for the future. The staff quotes

> In general, we are pleased with the course that the project has taken, although we realize how naive it was to expect to complete it with only the resources provided through the SHEEO/FIPSE effort! While it might have been possible to develop a range of policy options for distance education with relatively modest investment of staff and consultant resources, it is simply not possible to engage a community in discussion of the critical issues surrounding the role and implementation of distance education without making a significant investment of time and effort.

> To anyone who might wish to replicate our work, we would recommend increased attention to timing. Distribution of the survey and scheduling of the regional meetings were so near the end of the term that some who would have otherwise participated were pressured by other commitments and thus unable to do so.

According to MHECB, a staff person had to work almost full time for four months to see this project to completion. The total dollar amounts for both subsidized and volunteer staff time -- including travel time and mileage, meals, lodging, and services -- were much higher than the SHEEO/FIPSE funds made available for the project.

Despite these problems, the project provided a unique and valuable opportunity to the coordinating board and the state of Minnesota. Many faculty, students, and administrators took a great deal of time and energy to respond to the survey and to participate in regional forums. The project enabled policymakers to hear about the hopes and concerns of those "in the field" and to discuss the potential for distance education in a less politicized environment. Ironically, despite these efforts, the MHECB initiatives to extend alternative delivery of education did not prevail in the 1995 legislative session. Nevertheless, the long-term impact of this approach to building support for a transformation in higher education remains to be seen. A significant number of key policymakers now have a deeper, better informed understanding of the impact of technology on the future of higher education.

SHEEO/FIPSE Project Report

State Council of Higher Education for Virginia (SCHEV)

Project Duration: September 1993 - March 1995
State Project Director: Margaret Miller

A. Project setting

1. Coordinating Board Structure - The State Council of Higher Education for Virginia (SCHEV) consists of 11 members representing the general public, appointed by the governor. Statutory responsibilities include planning, coordination, and program approval for public senior and junior institutions. The council also develops all budget guidelines and formulas, and reviews and recommends institutional budgets. The council does not, however, make a consolidated budget recommendation for all of public higher education. The council maintains 45 professional and 21 supporting staff members. (Source: State Postsecondary Education Structures Handbook, 1994)

While possessing relatively weak formal authority, SCHEV is among the more influential coordinating boards in the country. Any coordinating board lacking strong regulatory powers must rely heavily on "powers of persuasion." Gordon Davies, director of SCHEV, stated in a letter of support for this project's original proposal, "As a coordinating board, our capacity to be effective in guiding higher education in the state depends less on statutory authority than on the power and persuasiveness of our ideas." For this type of strategy to work, powerful and persuasive ideas must be possessed and promoted by coordinating board members and staff. SCHEV has been successful in recruiting staff who are committed to its ideas of change for higher education in the next century. Their primary tools of influence include raising difficult issues, convening the players, and providing a forum for thought-provoking discussion.

2. Political Pressure - Virginia has long possessed an excellent reputation for high-quality public higher education. In spite of this tradition, the public is questioning higher education's ability to manage costs and operate efficiently. Public sentiment toward higher education was damaged by a series of newspaper articles published in September 1993, just as the FIPSE project began. The five-day series was produced by and ran concurrently in Virginia's top four newspapers. The tone of the series is suggested by the following clipping:

> Virginia's colleges and universities are close to the top of the class when it comes to tuition. Our students pay more than students in 45 other states. What do they get for their money? In many cases far less than they deserve. Overcrowded classrooms. Professors who spend more time writing papers than helping students. College presidents who lead a jet-set lifestyle wooing potential donors while they ignore their institutions. (*Roanoke Times & World News*, September 8, 1993, p. A-5).

The public's frustration was evident in the 100-plus bills affecting higher education that were introduced by the 1994 General Assembly. Some of these bills attempted to micro-manage higher education. Examples included limiting the use of color printing by universities for class schedules, basing tuition on the instructor's qualifications (e.g., students would receive a discount in classes taught by GTAs), directing SCHEV to set faculty workloads, and limiting the enrollment of out-of-state students. None of these "micro-managing" bills were passed. However, they were not rejected outright. Many were carried over until the next legislative session.

The legislature sent three very clear messages to higher education in 1994. First, they were feeling less hostile, realizing they had cut higher education more than its share in recent years. This year marked the first growth budget for higher education since 1989 with a 2% increase. Second, they turned down (temporarily) bills that would micro-manage higher education. Third, they were very serious about change and expected a substantial restructuring effort from each institution.

3. Financial Pressure - Between 1989 and 1994, colleges and universities in Virginia lost more than $400 million in General Fund appropriations. To offset the loss, tuition at public institutions increased by 117% since 1986. Furthermore, a newly elected Governor George Allen introduced a budget for FY '96 that would have cut another $40 million from higher education while capping tuition and fees at the rate of inflation for in-state students. However, the groundwork laid by SCHEV for institutional restructuring helped convince legislators not to impose further cuts to higher education.

While experiencing these substantial losses in state funding in the early '90s, enrollments were expected to increase by 65,000 by the year 2004. Virginia's national ranking in higher education appropriations per capita fell from 22 in 1991-92 to 36 1993-94 (Hines, State Higher Education Appropriations). Numerous strategies to cope with increasing demand with fewer state dollars were initiated by SCHEV. Gordon Davies recently mentioned institutional restructuring, tougher admissions standards, new campuses, new uses of technology, and contracts with private colleges as efforts responding to this dilemma.

4. Relationship with Constituencies in Developing Policy - Virginia has a long history of highly autonomous public institutions of higher education. Many institutions were founded long before a need for statewide coordination existed. Some institutions, therefore, view SCHEV as an advocate for the state more than for the institutions. Traditional key constituents in developing policy have included institutional administrators and legislators, although faculty and students also play a role. Recent financial and political pressure, however, has prompted SCHEV to try new approaches to engaging their constituencies. SCHEV's participation in this FIPSE project involved meeting directly with faculty members on campuses.

5. Recent History - A number of significant reports document major events in Virginia higher education over the past several years. The Commission on the University of the 21st Century published its recommendations in November 1989, just prior to the major financial problems about to be experienced by Virginia higher education. In this report, several themes were advanced: a need for scientific, mathematical, and technological competence; a need for competence in public speaking, writing, listening, and communicating; a need to prepare students for jobs in a global economy; and a need for predictable funding. This report has influenced much of SCHEV's agenda in succeeding years.

In July 1991, a presidents' paper outlined proposals to 1) increase tuition and fees to offset cuts in appropriations, 2) provide incentives for change, 3) eliminate unproductive and duplicative programs, and 4) review what faculty do. In October 1992, a study known as the *Continuum of Education* evaluated time-to-degree, student ability, program learning goals, and scheduling in Virginia public higher education. It also suggested placing most remediation in community colleges and making curricula more flexible.

Following a charge by the General Assembly to describe how institutions could effect long-term changes in the structure of higher education, SCHEV responded in a 1993 report, *Change and Improvement in Virginia Higher Education: A Preliminary Report to the Governor and General Assembly*. The report's chief recommendations included the following: decentralization of authority for operating institutions; investment in new teaching technologies; curricular streamlining; competency-based credentialing; interdisciplinary approaches to learning; and a reconception of faculty roles and rewards. This report was followed by another presidents' paper in September 1993, which aimed to renew the contract between higher education and the people.

The 1994 General Assembly, while turning down bills to micro-manage higher education, expressed its intent that public higher education would begin a restructuring process. To that end, the governor and General Assembly included language in the 1994 Appropriations Act asking public institutions to submit restructuring plans by September 1, 1994. The plans were reviewed according to 14 criteria established by SCHEV. After reviewing the restructuring plans, ten were accepted by SCHEV, while six were sent back for revisions and finally approved.

Also created by the 1994 General Assembly was the Commission on the Future of Higher Education in Virginia. The Commission was charged with reviewing the structure of Virginia's system of higher education, determining the efficacy of the decentralization of higher education, and recommending a course of action for higher education in the Commonwealth. The commission met ten times between spring of 1994 and fall of 1995, one of which included a luncheon with faculty members participating in the FIPSE Faculty Forum on November 22, 1994. Their final report, *The Report of the Commission on the Future of Higher Education in Virginia* was published in January 1996.

B. Project Activities

1. Major Activities - SCHEV's three major activities for the FIPSE project include the eight campus meetings with faculty members, a listprocessor designed to continue discussions with faculty, and a statewide Faculty Forum on New Approaches to Teaching and Learning. Some common themes emerged from the faculty discussion groups in March and April 1994. First, faculty appreciated the opportunity to meet and talk with real people who had only been known before as a mysterious entity. One faculty member described her perception of SCHEV as "the big boss in the sky." Second, faculty clearly needed to vent some frustration toward the public's lack of understanding of what they do, as evidenced by the newspaper articles in

September. Because the press had put its own "spin" on the stories rather than addressing the true problems in higher education, many faculty were resentful, defensive, and skeptical of SCHEV's presence as an outsider. One faculty member began the discussion by stating that they "reject the premises upon which you come here today," implying that SCHEV was bringing the same message carried by the newspapers.

Third, there was general agreement that faculty reward systems do not reward behaviors that administrators, SCHEV, and the public say they want. Faculty need to be encouraged to take risks and not punished for failures. Fourth, faculty perceived that the numbers of administrators had grown exponentially in the past decade or two causing needless and redundant paperwork. The decentralization initiatives were welcomed for that reason. SCHEV reported that their analysis of position growth indicated faculty numbers had grown faster than administrators, although more of those faculty positions are being filled by adjuncts. Fifth, there was a great desire to be given credit for innovations already underway on campuses, and that the information might be shared among other campuses in the state.

Many faculty expressed an interest in continuing conversations with SCHEV and other peers around the state electronically. Following the spring meetings, SCHEV formed a listserv to facilitate this discussion. Its objective was to provide a forum for free exchange of ideas on statewide institutional policies and their effects, as well as a method for SCHEV to keep faculty informed of significant events and pertinent documents. As an unmoderated dialogue, the discussion proved to be sporadic and unfocused. A few "flame wars" erupted between a faculty member and a SCHEV staff member. Despite faculty's expressed interest and some "advertisement" the Faculty Forum, there was not enough useful content to justify staff time in keeping the listserv operating. Thus, it was discontinued.

One message came through very clear from the campus faculty meetings. Faculty wished to be given credit for teaching innovations already underway and to share what they have learned with their peers around the state. As a final "event" for the FIPSE project, SCHEV organized a statewide Faculty Forum on New Approaches to Teaching and Learning in an effort to meet this need. Its purpose was to bring together faculty who have tried new approaches to teaching and learning with those who may be considering doing so. SCHEV had originally hoped to get 50 to 75 faculty members interested in coming. Over 450 faculty members attended, while many were turned down because of lack of space. This remarkable turnout was enriched by the atmosphere of energy in each faculty demonstration session. Many faculty were overheard making remarks indicating that this kind of forum was needed on a regular basis. Overall, faculty curiosity in the forum suggests that faculty awareness of and interest in restructuring of teaching has extended beyond the small campus meetings, which was one of SCHEV's goals for the FIPSE project.

2. Project Role - The FIPSE project activities were all part of an existing restructuring agenda in the state. Before the project began, a number of state-level restructuring initiatives were underway in Virginia: the U21 Commission; the presidents' letter on privatization; *Change and Improvement* (called for decentralization, indicators of effectiveness, revision of faculty workload, technology use, enrollment shift to community colleges); *Continuum of Education* (examined curricular streamlining, 3-year degree, transfer issues, use of campuses in summer, higher admissions standards); the presidents' letter on commitment to change; indicators development;

revised space planning guidelines; and library networking projects. Numerous campus-based restructuring efforts were also in progress: new colleges; Teletechnet; Center for the New Engineer; James Madison's learning productivity strategy; Virginia Tech's Phase II restructuring; and Virginia Commonwealth and Old Dominion's strategic planning.

Enter the legislative mandate for institutional restructuring plans early in 1994, and the faculty conversations on redesign became even more relevant and timely. During one of the faculty meetings, Gordon Davies stated, "The grant that SHEEO got in which we are participating as one of three states is simply an occasion to do something that we needed to do. We're delighted to have FIPSE sponsorship, but this is the exact conversations that we knew we needed." In the past, institutions had resisted conversations between SCHEV and faculty because it subverts the governance structure (i.e., each institution has its own governing board, president and administration). "And we were reminded of that by university presidents and others whenever we have suggested that it would be interesting and profitable for us to talk to the faculty," stated Dr. Davies. Clearly things were changing in Virginia higher education because when Peg Miller, director of academic affairs for SCHEV, raised the idea this time with the provosts, they "jumped" at the idea. Additionally, being part of a national project with SHEEO and FIPSE sponsorship helped legitimize the process.

3. Consultant Role - Peter Ewell, the FIPSE project external evaluator, attended one of the faculty discussion groups at Virginia Military Institute. His role was primarily that of observer, though he also served as consultant to the Indicators of Effectiveness project at the same time. Rhonda Epper, FIPSE assistant project director, attended three faculty meetings as an observer: Christopher Newport University, Norfolk State University, and Old Dominion University. Epper also attended the Faculty Forum on New Approaches to Teaching and Learning in November 1994. Both Ewell and Epper conducted informal interviews with SCHEV staff members and faculty members during their visits.

4. Project Visibility - A typical strategy for SCHEV and one that has been successful so far is to "throw a provocative idea out there" and allow someone else to take credit for it. This strategy was also used in the FIPSE project. From the beginning of the project, SCHEV hoped to bring together faculty opinion leaders on campuses to discuss restructuring ideas and allow those ideas to move into conversations owned by other faculty groups. Based on the overwhelming interest in the Faculty Forum, the message seems to have reached its intended audience. The FIPSE project helped SCHEV staff open conversations with, if not gain commitment from, faculty groups to the broad-based restructuring agenda.

5. Project Impact - One requirement in selecting pilot states was that a "redesign" agenda was in place with capacity and commitment from the board and staff to carry it out. This was the case in Virginia, leveraging the dollars we provided through FIPSE to achieve greater impact. Taken together with all of Virginia's restructuring initiatives, the FIPSE project has been part of a statewide restructuring effort with far-reaching implications for higher education in Virginia. When addressing the Commission on the Future of Higher Education in October 1994, James Madison University President Ronald E. Carrier described restructuring as painful. "Some people can and have lost their jobs over this. We have changed the very culture of the university," he stated.

As for the FIPSE part of the effort, Peg Miller stated, "If the [faculty] discussions have had no dramatic effect on the decisions we make, they have sensitized us to faculty mood and the impact of our actions on those people without whose cooperation any restructuring is doomed." Significantly, SCHEV has already used this same approach with other issues, indicating this process may become "business as usual" for the council. The same faculty groups were consulted last July on the list of proposed indicators of institutional effectiveness.

6. In Retrospect - Peg Miller, when asked this question, indicated that they would not have done anything differently with this project. They were surprised by the extent of faculty "hunger" for conversation with each other and with SCHEV around restructuring issues. After some time had elapsed following the project, Miller noted that the agency had in fact *not* changed the way they do business as a result of the project, but that "we should have." She indicated that the process must be continuous--that the conversations needed to be held over an extended period of time to build trust with faculty. But at a time when the agency's staff had been downsized, it was difficult to find the time for this important activity. While the FIPSE project was helpful in moving the restructuring agenda and the timing was ripe, the conversations could not be sustained beyond the duration of the project.

SHEEO/FIPSE Project Report

Tennessee Higher Education Commission (THEC)

Project Duration: September 1993 - March 1995
State Project Director: Donald R. Goss

A. Project Setting

1. Coordinating Board Structure - The Tennessee Higher Education Commission was created in 1967 by the state legislature. The purpose of this coordinating board is to create cooperation and unity among the higher education systems and institutions within Tennessee. The Commission consists of nine lay members representing Tennessee congressional districts and the constitutional officers of the legislature. There are three non-voting members comprising the Executive Director of the State Board of Education and two students - one from each of the two public systems. All members of the Commission are appointed by the governor.

There are two public higher education systems within the state. The Tennessee Board of Regents governs six regional universities, fourteen two-year colleges, and 26 technology centers (non-collegiate vocational schools). The University of Tennessee Board of Trustees governs four universities and several special purpose units.

The Commission has responsibility for master planning for higher education within the state, for the recommendation of budgets to the governor and legislature, and for supplying accurate information to the public concerning higher education. The Commission also oversees the licensure of private vocational schools and veteran's education. The Commission, in preparing its master plan each five years, also is mindful of the contributions of the 35 independent, regionally accredited colleges and universities in Tennessee.

2. Political/Financial Pressure - Tennessee did not enter the FIPSE project because of pressures brought on by fiscal exigencies. Tennessee public higher education has enjoyed unprecedented support by the governor and legislature. While the system suffered, as did the rest of the nation, from the most recent recession, as the state has recovered from that recession, higher education has seen its appropriations increase by over 18%. During 1994-95 (and subsequently 1996-97), the state had the largest capital budget for higher education in its history.

While the financial environment was positive, the political perception, from both the legislature and the governor's office, was that THEC was not doing a good job in holding the campuses accountable for "program proliferation." This factor and a long tradition on THEC for innovation motivated the staff to be proactive and participate in the redesign project.

3. Relationship with Constituencies in Developing Policy - In developing the strategic master plan for 1996-2000, a task force--led by the Commission staff--was put together from all sectors of education in the state. The master planning task force was composed of representatives from the Tennessee Board of Regents, the University of Tennessee, the State Board of Education, the Tennessee Independent Colleges and Universities, the Tennessee Association of Independent Colleges and Schools, and chief executive officers from the state's public and private colleges and universities.

This task force sought suggestions and critical analyses from all levels of the postsecondary education community. The process culminated in a series of hearings across the state involving faculty, staff, administrators, students, leaders from K-12 education, business leaders, and policymakers.

4. Recent History - For 15 years, the Tennessee Higher Education Commission has maintained a performance funding system which provides incentives for quality improvement in the state's public postsecondary institutions. Through this funding program, an institution may earn up to 5% of its state appropriation by demonstrating effectiveness and improvement in certain areas. The performance criteria have been modified over the years, with additional criteria created to deal with issues such as retention, graduation rates, and minority achievement. The program enjoys considerable support from the governor, legislature, and institutional leaders and is highly regarded nationwide. THEC initially proposed to build upon this successful program for the FIPSE project by applying a similar funding approach to encourage improvements in efficiency and productivity.

Because of its potential controversy, however, THEC decided instead to turn its attention to another area of their responsibility, namely, academic program review. Among the responsibilities given to the Commission is the authority to approve all new academic programs. This authority does not, however, extend to the termination of low producing or duplicative programs. The Commission *is* obligated to study and file reports on existing programs. Every year, the Commission provides the governing boards with a report of low-producing programs. The governing boards have procedures by which such programs are studied and either justified or dropped from the academic inventory. In 1992, Commission staff did an extensive preliminary study of the state's academic inventory. This study focused on low-producing programs and on unnecessary duplication. To support the FIPSE project, the staff replicated and updated the 1992 study to provide background material on the academic inventory in 1993-94.

B. Project Activities

1. Major Activities

In the 25-plus year history of the coordinating board, several efforts have been made to reduce program duplication. These efforts have resulted in some reduction in the number of programs but have made few inroads into the reduction of the most expensive duplicated programs. Low-producing programs have been regularly eliminated due to comprehensive program review policies of the state's two governing boards.

THEC staff determined that this effort, as part of the SHEEO/FIPSE project, would be a cooperative effort of Commission staff, governing board staff, and campus academic staff. The project was laid out in the following steps:

- A study of the academic program inventory by Commission staff
- Review of the study by governing board staff
- Review of the study by campus academic staff
- Review of the study by a committee consisting of Commission staff, governing board staff, and members of the Commission.
- Recommendations of action to the Commission and governing boards

Work on the academic inventory study began in late fall of 1993. This report included full information on all academic programs in the state's public higher education system, programs at independent colleges and universities, and vocational programs at the state's vocational/technical schools (State Technology Centers). Information was developed on a five-year pattern of enrollments and graduation data and the material was presented both by discipline and by institution.

A first draft of this report was shared with the Commission at its spring meeting on May 27, 1994. A subcommittee of four persons was then appointed to oversee further activities related to this study. This subcommittee presented a report of its work to the Commission on December 1, 1994. There were two major conclusions by the subcommittee. First, it was agreed that the problem of low-producing programs was under control due to the extensive review processes of the governing boards. The subcommittee found that between 1978 and 1995, the academic inventory of program offerings was reduced by 28%. Furthermore, in the past ten years (1985-95), the inventory was reduced by 18%. Second, the following areas were identified for further study as having a potential to contain unnecessary duplication: Agriculture, Education, Engineering, Home Economics, Protective Services, Health Professions, and Business.

A second major activity of Tennessee's SHEEO/FIPSE project was the work of a task force created to look at incentives for improvement of efficiency and effectiveness. In the spring of 1994, this task force was appointed comprising Commission and board staff and campus personnel from all segments of the public higher education system. At the first meeting of the task force, it was determined that the group would proceed to develop a series of white papers addressing critical areas affecting the operation of the state's higher education system. The main theme of the papers was to identify critical areas of operation, make suggestions for improvement, and suggest incentives for improvement.

A statewide meeting of campus personnel was convened on December 15, 1994 to study and comment on the papers. Each campus was invited to send a team of at least four persons, including the president, provost, chief fiscal officer, and faculty leader. Prior to the meeting, a draft copy of the task force papers was circulated to all campuses to allow time for reading and discussion in preparation for the meeting. Jim Mingle, executive director of SHEEO, was a featured speaker at this meeting, and shared a national perspective on the discussion topics. Discussion at the meeting was lively, and the authors of the various papers proceeded to a final draft of their papers.

2. Project Role - During the December 1994 statewide meeting, THEC Executive Director Arliss Roaden outlined the objectives of this project and how it fit into a broader agenda of the coordinating board. THEC's productivity agenda consisted of three parts: 1) revision of the master plan, 2) reviewing the program inventory (most closely associated with FIPSE), and 3) revitalizing the THEC cost study. Donald Goss, the FIPSE state project director, indicated that the board had made "great progress" in program inventory reduction and that a new "spirit of cooperation" existed and that the system boards supported this endeavor.

3. Consultant Role - No consultant used.

4. Project Visibility - Evidence that the project received considerable visibility and that the campuses responded well to the project can be found in the fact that there were more than 100 attendees at the statewide meeting in December 1994. These attendees represented the state's 25 public campuses and special-purpose institutions, and included administrators, faculty, and students.

5. Project Impact - According to THEC staff, the timing of this project was fortuitous. The Commission is required by law to produce a master plan for higher education each five years--the latest of which was produced in 1996. The task force assigned to write the new master plan followed the course of the SHEEO/FIPSE project with great interest and used its results in developing the master plan. Some members of the master plan task force attended the statewide meeting in December 1994 and participated in the deliberations of the SHEEO/FIPSE task force. It is the feeling of the Commission staff that the SHEEO/FIPSE project was a success and will continue to influence higher education in the state.

The project resulted in (1) the generation of ideas for program and institutional efficiencies, (2) a cooperative venture involving Commission, board, and campus staff, (3) content for two other statewide activities: development of a new five-year master plan and an on-going study of unnecessary program duplication, and (4) a set of idea papers which were published and intended to serve as a guide for campus plans to make hard decisions on efficiency and effectiveness.

6. In Retrospect - During the statewide meeting of December 1994, system leaders expressed two differing views on the FIPSE project to the SHEEO executive director. A Board of Regents official indicated that he thought the primary purpose of the activities THEC was engaged in for the FIPSE project (i.e., program review, efficiency papers) was to gain legislative legitimacy in order to gain additional funds. There was no sense on his part that this project was aimed at internal reform of the institutions. On the other hand, a University of Tennessee official noted that the UT governing board was being positively encouraged by this project and THEC to examine productivity issues. He felt the primary agenda was internal, not external, although he certainly hoped there would be positive political spin-offs. He also noted that this topic (i.e., productivity) and the variety of players assembled for the FIPSE meeting was a "first" in Tennessee.

THEC staff remarked that an unexpected benefit of the project was a renewed spirit of cooperation among the Commission, governing board staff, and campus academic officers; and that one of the most important outcomes of the statewide meeting was an almost unanimous opinion that the forum, where staff and campus personnel from both systems were brought together to discuss common issues, should form a pattern for future approaches to policy development.

Unfortunately, that spirit of cooperation has not been enough to prevent political intrusion into the work of THEC. Subsequent to the FIPSE project, two executive directors of the agency have lost their jobs due to intervention by the governor who saw the agency as unresponsive to his agenda. Program decisions which flowed from the FIPSE initiated master plan and study of programs was a factor in the most recent dismissal of the agency head in November 1996.

SHEEO/FIPSE Project Report

Oregon State System of Higher Education (OSSHE)

Project Duration: January 1995 - June 1996
State Project Director: Holly Zanville

A. Project Setting

1. Governing Board Structure - The State Board of Higher Education is a statutory governing board for the seven public senior institutions in the state. In July 1995, Oregon Health Sciences University became an affiliated institution. The board consists of 11 members appointed by the governor and confirmed by the senate. Nine of the eleven members represent the general public and two members are student representatives. The Oregon State System maintains 43 professional and 103 supporting staff members (Source: *State Postsecondary Education Structures Handbook*, 1994).

The Board of Higher Education has broad statutory budget, program, and planning authority for the public four-year system in Oregon. A single higher education budget is prepared by the chancellor's office, with participation from the campuses, and submitted to the governor and the legislature. The chancellor's office allocates state and general support, tuition dollars, and other revenues to the campuses based on a specially designed budget allocation formula. The Board of Higher Education delegates program authority to campuses through a systematic process of review and approval, primarily related to campus mission, adequacy of resources, need for the program, and impacts on other institutions. The Board of Higher Education conducts statewide planning with the institutions as well as with the other educational sectors, the latter primarily with the Joint Boards of Education.

2. Political Pressure - Because of the financial constraints within the state, there is ongoing pressure among the educational sectors as well as other state agencies for adequate resources. In the past, K-12 and community colleges were funded primarily by local property taxes. However, following passage of a property tax relief program by Oregon voters, increasingly all the educational sectors require state general fund dollars to maintain their central operations; and they compete with other important state agencies such as corrections and human services. With the rising costs of a college education, there is growing pressure within the state for students to accelerate progress toward baccalaureate degrees and to utilize technology wherever possible to provide expanded access throughout the state. Technology is seen as an important way to provide greater access to higher education programs and services within the state's increasingly congested urban areas and underserved rural areas. Also, the demand for higher education is projected to increase over the next decade, as is occurring in many of the western states. This is adding to the pressures on the higher education system to expand its capacity and still maintain quality and diversity of programs.

3. Financial Pressure - In 1990, Oregon voters approved a rollback in property taxes which resulted in devastating cuts to higher education. Since that time, the state's general fund contribution has fallen to 20% of the budgets of four-year institutions, from 35%. Higher education institutions have kept afloat in part by raising tuition sharply. In-state tuition has jumped 81% since Measure 5 was enacted, and non-residents are paying more than double the amount they were charged in 1990. Furthermore, Measure 47--a proposal to reduce and cap property assessments--will be considered by voters in November 1996. Passage of this measure predictably would stifle income growth for cities, counties, and school districts, which would then seek help from the legislature. Any legislative assistance would come at the expense of higher education and other state agencies (Source: *The Chronicle of Higher Education Almanac*, September 2, 1996).

4. Relationship with Constituencies in Developing Policy - Through a strategic planning process begun early in 1996, OSSHE board members tapped into the needs and concerns of its constituents by holding a series of focus groups. This process was designed to build upon the earlier work of the Higher Education 2010 Advisory Panel, which released its recommendations for higher education change in 1994. The 1996 planning process identified key themes that would guide the priorities set by the board in reaching the vision for 2010. Among these major themes were assessment, diversity, governance, new competition, new demands, partnerships, student access, and technology. The strategic plan was approved at the June 1996 board meeting. "Solution Teams," made up of higher education leaders and civic and business leaders, will assign timetables, tactics, and measurable outcomes for OSSHE to put in place to achieve its goals and become more accountable to its many customers and all citizens of Oregon (Source: *OSSHE Now: Newsletter of the Oregon Public University System*, April, June-July, 1996).

5. Recent History - OSSHE initiated major academic productivity planning and implementation efforts beginning in 1993. These efforts have focused on improving the quality of undergraduate instruction and on providing instruction as efficiently as possible. OSSHE colleges and universities emphasized three areas between 1993 and 1995:

- Development of academic productivity and educational reform plans by each campus.
- Undertaking systematic efforts at each campus to assess the effectiveness of various instructional efforts within the system.
- Initiation of 24 small demonstration projects to find ways to enhance instructional quality and/or serve more students.

In April 1993, the Board of Higher Education appointed a special Board Committee on Academic Productivity (BCAP). One of the recommendations of this group was that funds be allocated to the colleges and universities for experimentation and evaluation for innovation and productivity increases in three areas: mastery learning, greater use of technology in instruction, and reducing the time required to achieve the baccalaureate degree. Toward that end, the board funded 24 projects, totaling $550,000.

B. Project Activities

1. Major Activities - OSSHE's project was designed to evaluate the above-mentioned 24 productivity projects with the goal of understanding the best ways to strategically allocate funds in the areas of productivity in the future. They hoped to gain a better idea of the effectiveness and cost efficiencies that were attained or not attained in these 24 seed projects. To accomplish this, OSSHE carried out the following activities:

- Sought an out-of-state project evaluator who would bring expertise in higher education and knowledge of the increasing impacts of technology on productivity and educational reform. Dr. Peter Ewell, also serving as the larger FIPSE project evaluator, was selected to conduct the evaluation.

- Twenty-two project directors were sent a survey response form which served to develop a "meta-analysis" of all projects.

- Site visits to five projects by Ewell and Chancellor's Office staff were conducted in fall of 1995.

- Ewell submitted preliminary evaluation findings, based on his site visits and reviews of written project proposals, to assist OSSHE in making decisions about the award of a new round of RFP projects. Ten new projects ($500,000) were subsequently approved by OSSHE.

- In January 1996, OSSHE held a Statewide Forum on Productivity and Educational Reform, which was broadcast over Oregon ED-NET from the University of Oregon, Eugene to six other campus sites. The forum was attended by about 100 campus administrators, faculty project participants, Chancellor's Office staff, and others involved in technology and curricular redesign efforts. Ewell's draft evaluation report was provided to all project participants.

- Following the Statewide Forum, Ewell met with OSSHE Provosts and the Vice Chancellor for Academic Affairs on the evaluation findings, then briefed the Board of Higher Education at their board meeting. Ewell also participated in the Board of Higher Education's Planning Task Force on Undergraduate Education, contributing findings on productivity and technology interfaces.

- Ewell completed the final evaluation report based on additional input received at the Statewide Productivity Forum.

2. Project Role - This evaluation project dovetailed closely with the Board of Higher Education's strategic planning emphasis on productivity and educational reform. An important component of this effort was targeted funding of the 24 seed projects that developed and tested new productivity and reform approaches, particularly with a technology emphasis. The SHEEO/FIPSE project enabled OSSHE to undertake a first-time evaluation of the effectiveness and cost efficiencies contained in this type of targeted project funding.

The Board of Higher Education subsequently allocated an additional $500,000 toward ten "second generation" seed projects. The selection of these projects was informed by the evaluation findings. For example, more statewide, collaborative projects were funded as opposed to single course/single institution projects as a way of trying to gain the most from OSSHE-invested dollars. This project also provided important information for a developing dialogue with Oregon's community colleges on the role of technology in expanding access in all educational sectors--K-12 through higher education. The investment of dollars in course development, for example, was noted as significant enough that courses should be shared across the sectors. There are a number of additional technology interfaced projects underway, which continue to use the findings of the evaluation stud in a variety of ways.

3. Consultant Role - One of the reasons for the success of this evaluation effort can be attributed to our external evaluator. Throughout this process, Peter Ewell established excellent rapport with faculty and administrators at our campuses, which was key to eliciting candid responses from project participants, and developing support for using these findings. Ewell displayed keen insight about the changes underway in our system. He entered with an appropriate cautiousness about the role of technology in curricular reform, and displayed a willingness to participate in discussion about a range of issues with diverse policymakers and faculty in our system. Also, we found that Peter "did his homework" in reviewing these projects. For example, in addition to reviewing the proposals and written materials we provided to him, he visited campus sites on the World Wide Web, read through syllabus material, tried out classroom innovations as if he was a prospective student, and carefully reviewed cost-saving formulas that had been developed. Much of this activity went beyond the terms of the contract, and accounted for his credibility, we believe, with our faculty.

4. Project Visibility - The final evaluation report has been distributed widely within the system of higher education. It is also available on the World Wide Web at http://darkwing.uoregon.edu/~nasulgc.index.html. We believe that this evaluation effort has been highly successful, and have been able to garner quite a bit of visibility for our efforts, which will help us position future efforts of this sort for our system.

5. Project Impact - As a result of this evaluation effort, we have learned a great deal about OSSHE's first two rounds of productivity and academic reform projects. We have already used much of this information--and will continue to in the future--in funding a third round of productivity and educational reform projects. We are in agreement with Ewell's findings about the ways to benefit the most from investments we make in seed money projects. For example, one of the findings from this evaluation is that we consider some systemwide large-scale curricular redesign projects, while the campuses continue to address the more typical campus-based, discipline-specific innovations.

We have learned that there is a difference between the single course (or course module) approach versus program and interinstitutional approaches. System leadership may best be gained by addressing the larger scale efforts since that is not an area likely to be addressed by a single campus without special incentives. We plan to use this finding in our next investment decisions.

6. In Retrospect - At the annual meeting of state higher education academic officers, several of the FIPSE state project directors had an opportunity to reflect on the outcomes of their projects. Holly Zanville noted several things that OSSHE is doing differently as a result of the productivity projects: at each campus, new language has been added to faculty reward systems (tenure and promotion guidelines) with attention to technology; more attention is being paid to copyright and intellectual property issues; new instructional design staff have been added at many campuses; provosts have agreed on a common calendar and "start time" to facilitate sharing of electronically delivered courses; there is a better climate for discussing restructuring; evaluation findings were used in legislative requests; technology fees are in place at all campuses beginning fall 1996; and our consciousness has been raised that we must move faster and in partnership with the other educational sectors and with business/industry.

SHEEO/FIPSE Project Report

Florida Postsecondary Education Planning Commission (PEPC)

Project Duration: January 1995 - June 1996
Project Directors: Patrick Dallet/John Opper

A. Project Setting

1. Coordinating Board Structure - The Florida Postsecondary Education Planning Commission serves as a 12-member citizen board to coordinate the efforts of postsecondary institutions and provide independent policy analyses and recommendations to the State Board of Education and the Legislature. A major responsibility of the Commission is preparing and updating every five years a master plan for postsecondary education.

Other responsibilities include recommending to the State Board of Education program contracts with independent institutions; advising the State Board regarding the need for and location of new programs, branch campuses and centers of public postsecondary education institutions; periodically reviewing the accountability processes and reports of the public and independent postsecondary sectors; reviewing public postsecondary education budget requests for compliance with the State Master Plan; and periodically conducting special studies, analyses, and evaluations related to specific postsecondary education issues and programs.

The Commission has six professional and four full-time support positions. The Commission has no formal administrative or approval authority. Its effectiveness is dependent on the quality of the research and analysis and the strength of its recommendations. Since its inception in 1980, a significant majority of its policy recommendations have been enacted in statute or otherwise implemented by the affected boards or institutions. In 1995, the coordinating role of the Commission was reinforced by legislation specifying that its Master Plan shall serve as the basis for the development of strategic plans by the Board of Regents, State Board of Community Colleges, and Independent Colleges and Universities of Florida.

2. Political Pressure - Florida has not been immune to the increasing public scrutiny directed toward higher education nationwide. In 1991, the Florida Legislature enacted comprehensive accountability legislation outlining measures and procedures by which public universities and community colleges shall demonstrate progress in carrying out their respective missions and increasing their effectiveness. In 1994, independent colleges and universities were included in the accountability process. Also in 1994, legislative and public attention intensified with passage of the performance funding requirements that will eventually apply to all state funded agencies (including the state universities) and other state supported entities (e.g., community colleges and public schools). This emphasis on performance and results comes at a time when demographic projections indicate a massive increase in potential demand. Over the next 10 years, the number of high school graduates will increase about 38 percent (from 93,728 to 129,151). Partially in anticipation of this growth and partly in response to Florida's relatively low production of baccalaureate degrees (49th in country), the Board of Regents unilaterally established an FTIC enrollment goal of 15 percent of recent high school graduates. The actual share had been at 11-12 percent for a number of years. The Commission did not object to this goal. However, when the Board of Regents increased this goal to 20 percent a few years later, the Commission and others suggested that further analysis of the implications of this policy change was warranted. A major point raised was that degree production was dependent not only on the number of students admitted to the front end but on the success and retention of those already enrolled.

The 1995 Legislature enacted comprehensive legislation designed to improve the progress of students including standardization in the number of hours required for a degree (AA - 60 hours, BA/BS - 120 hours), development of common prerequisites, improved student advising and involvement of the independent sector in allowing demand in selected limited access programs. Also this year, distance learning was addressed as part of the telecommunications reauthorization. The Florida Distance Learning Network was established as a coordinating, oversight body and a revenue source (satellite transponder receipts) identified to support the use of technology and distance learning in enhancing student access and success.

3. **Financial Pressure** - Since the early 1980's Florida's public postsecondary institutions have received a steadily declining share of state general revenue. From 15.8 percent in 1983-84 to 12 percent in 1995-96. In contrast, the percentage of general revenue support for corrections and juvenile justice has more than doubled (from 5 percent to over 10 percent) during this period. This restricted situation is compounded by dramatic projected growth in demand and tuition rates that rank near the bottom (university resident tuition is 47th) among the states.

Strategies that have been enacted or discussed to address this situation including management decentralization and flexibility, reduced credit hour degree requirements, improved articulation and advising, greater use of the independent sector to accommodate excess student demand, and expanded use of distance learning and technology.

4. **Relationship with Constituencies in Developing Policy** - In the words of a former chairman "the Commission has no special constituencies other than the general public and this contributes greatly to the objective nature of our recommendations." Generally, the Commission works at the state level primarily with sector boards, legislative and governor's office staff, with involvement of institutional presidents and senior officials. Special study assignments provide opportunity to work with professionals and students concerned with such issues as financial aid, library automation, registration and advisement. The SHEEO/FIPSE project provided an excellent opportunity for increased involvement and interaction with faculty in selected disciplines.

5. **Recent History** - In 1989, the State Board of Education adopted *A Comprehensive Plan for the Improvement of Mathematics, Science, and Computer Education*, which among other recommendations charged the Postsecondary Education Planning Commission to explore ways in which community colleges and universities can support the goal of becoming a world class leader in these areas. The Commission's initial response to this is contained in its March 1993 report, *Assessing Efforts to Improve Science, Mathematics and Technology-Related Education at the Postsecondary Level*.

In its latest Master Plan, *Challenges, Realities, Strategies: The Master Plan for the 21st Century* (September 1993), the Commission called for "design of a comprehensive educational telecommunications policy to focus state resources on specific educational goals and provide guidance for funding and planning."

In a 1995 Statewide Telecommunications Task Force report, the Commission provided such guiding principles, the first of which stated "funding requests for technologically delivered postsecondary instruction should be targeted toward courses and programs that will increase the educational system's capacity and ease current access pressures." Also in 1995, the Board of Regents published a supplement to the Master Plan on Distance Learning and distributed approximately $3 million for institutional demonstration projects appropriated by the 1994 Legislature. Of the ten top ranked proposals, only one addressed the issue of access to undergraduate instruction and this was not included in the five projects funded. The 1995 Legislature did not appropriate any funding for distance learning.

B. Project Activities

1. Major Activities - The overall purpose of the Improving Access Through Technology (IATT) project was to enhance student progress and success by improving the delivery of critical undergraduate courses (bottlenecks) through effective use of technology. Major activities included identification of the contributing cause of the problem to be addressed; visits to selected community colleges and universities to gain an institutional perspective on both the issue of bottleneck courses and potential solutions; a statewide faculty forum held in cooperation with SHEEO and the Florida Higher Education Consortium for Mathematics and Science; and identification of potential pilot institutions and vendors for development and documentation of effective technology based strategies to improve the flow of students through bottleneck courses.

Through a series of interviews with provosts, academic vice-presidents, undergraduate deans, registrars and faculty members, the various causes of course bottlenecks (scheduling, faculty productivity, excessive failure rates, enrollment growth) were explored. With the help of a statewide steering committee, high enrollment courses with high failure/withdrawal rates were selected as the focus of the project. Data compiled for all community colleges and from a sample of universities indicated (not surprisingly) that the majority of such courses were in mathematics and science (algebra, calculus for business majors, physics, organic chemistry). In some cases, the failure/withdrawal rates were dramatic, e.g., in Fall 1994, only 47 percent of 18,377 community college students passed intermediate algebra.

The institutional visits yielded several important insights and some interesting reactions. While the term "distance learning" is currently used heavily, several faculty and administrators stressed the importance of conceptualizing the issue as technology assisted learning with the understanding that even some "low tech" tools such as dictaphones and cassette players can have high impact if used as part of an overall strategy that takes individual student's strengths, weaknesses and learning styles into account.

While there were a large number of technology based initiatives in place, there was general agreement that documentation of their effectiveness, particularly with course retakers in the core disciplines, was not readily available. In terms of interesting reactions, most of the interviewees expressed concern and frustration with the failure/withdrawal statistics, but a few faculty saw nothing out of the ordinary. Imagine Motorola or GM accepting a reject rate of 50 percent.

The statewide forum in November 1995 was preceded by a meeting of the steering committee at which members worked with math and science faculty resource groups on conceptualizing the ideal use of technology in addressing the bottleneck course issue. The general concept involved the following points:

- a "solution box" that could be made up of a variety of media, high school sophomore through lower-division level content,
- modular concept,
- multiple platform, inexpensive and versatile,
- big picture relevance for the student,
- components could be used to make a course or within a course,
- elements of high touch and learning support for the student,
- day-to-day discipline/assignments,
- effective placement component - precourse and within course.

This work was complemented at the forum with SHEEO facilitated discussions on electronic based curricula with an emphasis on distributed learning environments and software demonstrations in mathematics and chemistry. The evaluative feedback from the more than 100 math and science faculty in attendance was overwhelmingly favorable with regard to the general session led by Bill Graves, Director of the Institute for Applied Technology at the University of North Carolina. The software sessions led by Stan Smith of the University of Illinois (chemistry), Wes Region, Armstrong Labs, and Ed Murphy, PWS Publishing (calculus, algebra) were mixed. Those programs which had carefully documented their impact were well received. In the words of one faculty participant, "As we continue to apply technology to all levels of postsecondary instruction, we should be mindful that it is possible to test and definitively evaluate the effectiveness of the technology that is being introduced. If we neglect to pay attention to this part of the problem, we are certain to participate in the expenditures of substantial sums with little net reward."

2. Project Role - The project dovetailed with existing Commission activities but also provided an excellent link with the Statewide Systemic Initiative, the Higher Education Consortium, and the budget deliberations of the sector boards. It was mentioned earlier that the Legislature provided no funding to postsecondary education for technology/distance learning in 1995. The 1996-97 budget request developed jointly by the Board of Regents and State Board of Community Colleges included $2.5 million to address the issue of bottleneck courses.

3. Consultant Role - Jim Mingle participated in the steering committee and faculty discussion groups in Jacksonville. Both he and Rhonda Epper were particularly helpful in assembling the resource people for the Higher Education Consortium meeting held in conjunction with the project as well as an informal session involving Bill Graves, Carol Twigg of the National Learning

Infrastructure Initiative and representatives of several SHEEOs to discuss state level support for the use of technology.

4. Project Visibility - A former Commissioner of Education used to say "you can get a lot done if you don't have to take credit for it." The approach of the project has been relatively low key, but the involvement of the Commission in the deliberations concerning technology and distance learning has grown, as evidenced by proviso language in the 1996 General Appropriations Act calling for the Commission to prepare policy analyses for virtually every aspect of this area.

5. Project Impact - The 1996 Legislature appropriated $15.4 million for public postsecondary distance learning initiatives but did not specify how the money was to be used. This will be determined by the Florida Distance Learning Network, a statutory oversight group with representatives from education, government, and industry. Proposed allocations developed jointly by the state university and community college systems include addressing bottleneck courses as part of an $8 million proposal to promote access to undergraduate degrees. A request for proposals related to the bottleneck course issue has been developed based on the work of the IATT Steering Committee and faculty resource groups. The grants would focus on documentation of the impact of existing strategies and material involving technology with support for development or modification of material if necessary. The Higher Education Consortium has included bottleneck courses in its research agenda. The IATT project was also presented at several major conferences including the Florida Education Technology Conference in Orlando and the National Conference on Teaching and Learning in Jacksonville.

Finally, the project has led to a collaborative venture with Florida State University in which survey data is being compiled on the perceptions and performance of community college students in algebra and biology courses taught traditionally compared with those taught non-traditionally involving one or more forms of technology. When available, these data will provide a statewide perspective on the impact of technology on student performance and satisfaction.

6. Next Year's Agenda - The Commission will continue to work on development of an overall vision for how technology can be used most effectively in achieving learning and will carry out its study assignment in this area with a preliminary report due to the legislature and State Board of Education on February 1, 1997. The entire $15.4 million appropriated by the 1996 legislature for distance learning has not yet been released. However, a preliminary distribution of $4 million has been approved by the FDLN ($3 million for course development, including bottlenecks, and $1 million for student advising and other studies). The Commission will continue to follow this matter closely to assure that bottleneck courses are addressed with a portion of these resources.

7. In Retrospect - A number of policymakers have seized upon distance learning/technology as the answer without indicating a clear understanding of what the question is. Our project was a small attempt to focus on an identifiable problem with statewide significance and then foster an environment where individuals have an opportunity to rise to the challenge. The task is less one of development and more an assessment and refinement of some of the excellent initiatives which have already begun. During the project, we recruited some advocates as well as some skeptics, and both groups have been helpful. The former in understanding the potential, and the latter in grounding this potential in reality. In the course of many conversations, there have been some wonderful insights. One math department chair, who is extremely innovative, expressed some doubt that any initiative could significantly impact the failure/withdrawal rates cited in our review. In a subsequent discussion, this individual recalled a team teaching project which involved combining an algebra course and one in physical science. The opportunities for merging practical applications with mathematical theories were limitless. Not one student withdrew from the course.

SHEEO/FIPSE Project Report

Board of Regents
University System of Georgia

Project Duration: January 1995 - June 1996
Project Director: William R. Bowes

A. Project Setting

1. Governing Board Structure - The Board of Regents of the University System of Georgia consists of 16 members, one from each Georgia U.S. congressional district and five at-large members, all appointed by the Governor and confirmed by the state senate. The University System of Georgia, which comprises 34 research universities, comprehensive state universities, four and two year colleges, is established under separate state constitutional authority. This gives the Board of Regents power to create public colleges and universities, accept state appropriations in a single lump sum for use by institutions in the university system and allocate those funds in accordance with its budget priorities, hold, purchase, lease, sell and convey public property and accept bequests, donations, gifts and property for use by all institutions in the university system.

The Board of Regents has adopted policies concerning institutional mission, instructional and research programs, tuition, student affairs, personnel, finance and facilities in exercising its responsibilities and authority. Each year, the Board approves an operating and capital budget request which is submitted to the Governor and General Assembly. Since 1994, the Board has revamped tuition and fee policies, raised admission standards, directed institutions to convert from a quarter to a semester calendar, adopted a major new faculty and staff development policy for use by institutions and initiated a master facilities planning process.

The Board is served by a central office staff of nearly 150 professional and support personnel organized into three major divisions - Academic Affairs, Human Resources and Capital Resources. Within the Academic Affairs division, the Office of Information and Instructional Technology provides technical computer and telecommunications network support to the Regents central office and to university system institutions.

2. Project Basis - Since July, 1994, the Board of Regents has undertaken a fast-paced strategic planning process. An early outcome of this process was the development of a vision statement entitled "Access to Academic Excellence" and a set of thirty four guiding principles for the system. These documents envision a university system that uses its technology resources and deployment as a stage for emerging national leadership and prominence in the area of distance learning and instructional technology. They also emphasize the importance of appropriate funding for changing the system culture from one of competition and regionalism to one of collaboration and cooperation. Concerning distance learning and instructional technology, these principles provide that The University System of Georgia:

- Shall reasonably accommodate the needs of non-traditional learners in providing access, services and instruction.

- **Shall use technology, innovation and teaching strategies that produce the most learning by engaging students actively, collaboratively with other students and in frequent contact with faculty.**
- **Shall design and build facilities flexibly to accommodate tomorrow's technologies and educational methods and shall balance local initiative and central oversight in their design and construction in order to enhance both campus environments and statewide economic benefits.**
- **Shall pay priority attention to regions of the state with unusually underserved populations in managing access to needed academic programs and coordinating delivery of needed educational services.**
- **Shall pursue coordinated approaches to statewide telecommunications and other technological initiatives that maximize public access to information, benefit public health and well being, and improve educational access, quality and improve cost efficiency.**

In fiscal years 1996 and 1997, these principles formed the basis for proposing specific budgetary initiatives relating to technological development within the University System of Georgia. In the last two budget cycles, more than $30 million has been provided for technology enhancement from state appropriations and lottery funds alone.

3. Political Pressure - The University System of Georgia has been one of the principle beneficiaries of Governor Zell Miller's decision to make public education a top priority. The Governor's creation of the Georgia lottery is a prime example of his commitment to education. Lottery funds serve three purposes: To offer HOPE Scholarships to eligible Georgia residents, to support pre-kindergarten programs and to finance technology development in higher education.

The Board and Chancellor have committed to working in partnership with state, regional and local community representatives in developing technology initiatives. In addition, in exchange for state support, the Board has obligated itself to provide regular reports which account fully for the expenditure of funds. These efforts have been well-received by the state legislature. The broad geographical deployment of technology resources (e.g., the installation of satellite dishes on every school, college and technical institute, the creation of the PeachNet network) have contributed also to the support the Board receives from the Governor, legislature and local communities.

4. Current State of Technology Development - The technology infrastructure in Georgia offers great promise for extending the reach and flexibility of current educational programs and creating new educational services and opportunities for Georgia citizens.

PeachNet is an Internet-styled wide area network developed and operated by the University System of Georgia (USG). It provides state-wide and Internet connectivity world-wide to 163 sites, including all 34 USG institutions and serves as the basis for a comprehensive network for all education in the state. Services available on PeachNet include access to numerous computers, databases, gophers, e-mail, bulletin boards, newsletters, libraries and so on. Larger institutions have assumed the responsibility for networking all or most of their buildings to a campus backbone. The conditions in smaller institutions are more varied, with some having complete backbone networks and others having more limited networks.

All USG libraries are now directly accessible by means of PeachNet as a result of the Georgia Library Learning Online project which operates under the acronym GALILEO. GALILEO provides universal access to shared academic materials and services for all students and faculty in the university system and is being made available to all private colleges, public schools, libraries and technical schools in the state. GALILEO features electronic full-text core academic journals, an encyclopedia, dictionary, library catalog, state publications and census data. GALILEO demonstrates the enormous benefits to be obtained for education from a reliable, Internet-styled shared educational network.

Another statewide initiative, the Distance Learning and Telemedicine Program, was authorized by state senate bill 144 and funded with over $58 million in telecommunications overcharge revenues. It has focused primarily on the acquisition and installation of interactive video equipment. A total of 387 GSAMS sites are now installed, 105 alone within the University System of Georgia. These sites span the three state educational agencies (the Department of Technical and Adult Education, the Department of Education and USG) as well as human services agencies. The interactive service is managed by the state Department of Administrative Services. Conferences may be scheduled in advance to a maximum of eight sites per session. Currently, an average of 329 conferences are scheduled per month statewide involving 900 locations.

Connecting Teachers and Technology was an initiative developed in 1995 to upgrade the technological skills of faculty and to provide ongoing technological support at the campus level. The program initiative provides for intensive summer workshops for faculty as an incentive to employ distance learning and instructional technology in academic offerings. The model classrooms project, which provides funding to the 30 state universities, four-year and two-year colleges for development of technology-equipped learning sites, is an outgrowth of this initiative.

The Connecting Students and Services initiative was designed to make it possible for students to acquire accurate information related to college preparatory courses, determine transferability of college credit, access basic college admissions information and explore career opportunities. enhance student interaction with institutions by developing computerized transcript systems, automated telephone registration, e-mail access and create the Georgia Career Information System.

Recently, the University System of Georgia entered an agreement with a national vendor to provide computer dial-up service to faculty, staff and students. This agreement places the system in a position to offer extensive computer-based courses and programming on the Internet.

4. Financial Pressure - The University System of Georgia receives its state appropriation on the basis of a formula developed in the early 1980s. The formula is driven primarily by credit hour production differentiated by discipline and student level. There are no variables in the formula to recognize or account for the cost of distance learning or instructional technology as distinct categories of expense. Further, the formula is considered an "asking" formula; that is, it provides the basis for seeking state appropriations from the legislature but is not used to allocate funds directly to institutions.

Although the formula enjoys strong support from the executive and legislative branches, as well as the colleges and universities in the system, there has been a recent shift away from strict adherence to its provisions. One example is the increased use of special funding initiatives to support designated educational program needs or opportunities. Much of the support for the development of the technology infrastructure in Georgia has been provided using this method. In addition, the Governor recently mandated state agencies to develop budget redirection plans, an effort which requires all state agencies and the University System of Georgia to redistribute a fixed portion of their budgets to achieve strategic goals and objectives and ensure that funds are applied to higher priority programs. More recently, the state of Georgia embraced the concept of "results-based" budgeting which, like the more commonly used term performance-based budgeting, is designed to link budgets to program outcomes, or performance. If successful in its implementation, this budget method could replace the formula as the primary means of funding higher education in Georgia.

5. Recent History - In 1994, the University System created an Ad Hoc Administrative Committee on Distance Learning and Instructional Technology to coordinate future policy deliberations on a host of issues related to distance education and instructional technology as articulated in the guiding principles. Presidents, senior administrators and faculty from all segments of the university system were appointed to the committee which in turn created six major work groups involving over 80 additional faculty and staff to focus on specific issues in the area of technology, academic programming, academic services, faculty development, student support and services, and lifelong learning.

The recommendations promulgated by this committee and its work groups in a 1995 "Phase I" report were intended to guide the use and development of new technological improvements. Several recommendations from the committee were implemented as part of the "Connecting Teachers and Technology" initiative referred to earlier in this report. Another objective was to develop fiscal policy for distance education which would focus specifically on formula funding reform. In its June 1995 Strategic Planning Progress report, the Board called for reform of the funding formula "to deal more effectively with the new technological sophistication".

B. Project Activities

1. Major Activities - The purpose of the project was to assist the Ad Hoc Committee on Distance Learning and Instructional Technology develop forward looking fiscal policy for distance education by addressing specific operational issues. The planned approach was to use consultants to work with the committee to develop policy recommendations and invite participation of the state Office of Planning and Budget, the state Department of Education, the state Department of Technical and Adult Education, the Georgia Public Telecommunications Commission and the state Department of Public Libraries.

During several meetings in 1995 and early 1996, the committee vigorously debated the central fiscal issues with little agreement on how consultants could be best used to develop specific recommendations. From these meetings, it was determined instead that a forum on the issues involving a broad-based group of external consultants and selective internal constituencies might be a better approach to surface ideas and clarify issues. The committee decided also that the deliberations should focus initially on the University System of Georgia alone because of the complexity of the questions under consideration and the difficulty of gaining consensus among different state agencies.

The committee developed a set of eight major policy questions that reflected issues raised in the original grant proposal but which had been modified through subsequent deliberations. These policy questions cover topics concerning organizational structure, pricing of distance education courses and programs, relationship to formula funding and other methods of budgeting, faculty and institutional incentives and responsibility for support of the technology infrastructure.

The consultants were asked to provide a formal response to each of the eight questions, which most did using e-mail. The responses were then summarized and distributed over a listserv with registration restricted to members of the Ad Hoc Committee, key University System of Georgia administrators, and representatives of the Office of Planning and Budget and the Legislature Budget Office. Each consultant and listserv registrant was invited to comment on the responses during a period extending from June 24, 1996 through July 18, 1996.

The use of the listserv helped generate significant dialogue on the eight policy questions posed by the committee. Although not all persons registered on the listserv participated in the discussion, many of those who did not but who "sat in" on the discussion commented upon its educational value to them and to the process.

Finally, the findings of the forum were summarized and presented by the project director at the annual meeting of the State Higher Education Finance Officers (SHEFO) held in Annapolis, Maryland in August, 1996. This provided an opportunity for input from other state coordinating and governing board finance officers.

2. Major Findings - The opinions of consultants and forum participants varied on the major fiscal policy questions, although some common ideas emerged. These can be summarized as follows:

> **Decentralization Versus Centralization of Distance Education:** Some degree of system or state level oversight is needed to ensure access, quality and collaboration among institutions in the provision of distance education programs but this can take several forms. At one extreme, a "virtual or umbrella university" could be created which would contract with in-state public institutions to provide specific courses or programs in accordance with state-level needs. As a less extreme measure, it was suggested that the system should be responsible for capital development, setting academic standards and policies on credit transfer, establishing tuition policy, planning and facilitating faculty/staff training, providing incentives and undertaking academic needs assessment. However, program planning and development responsibility would rest solely with the institution. Another form of centralization proposed by the consultants was to consolidate specific academic and student services. These might include marketing, scheduling, admissions, registration, financial assistance and technical support (i.e., a help desk). System level oversight was viewed as a means to prevent

unneeeded duplication, ensure hardware and software compatibility, and a level playing field for all institutions in terms of their access to the technology infrastructure.

Tuition and Fee Policy: Ideally, tuition should be the same for distance learning courses as for regular academic offerings, but surcharges or pricing at "market competitive" rates may be appropriate under certain circumstances. One of the problems cited by at least one consultant is that distance education is still a relatively new concept where there are no historical data on costs and revenues. Market pricing strategies or use of surcharges might be needed to recover initial high program costs. Nearly all consultants discouraged use of special fees and creating complex arrangements among institutions for the collection and distribution of tuition and fee revenues as had been considered by the Ad Hoc Committee.

Funding of Distance Education through Formula or Cost Center: Most of the consultants agreed that distance education ultimately should be supported in the same fashion that all other academic offerings are funded, i.e., that credit hours generated by distance education courses should simply be factored into current formula categories without special considerations. The reason for this is that it will be difficult in the future to delineate distance education from other programs. On the other hand, there was some sentiment toward funding distance education initially as a separate cost center to protect its funding base and provide an opportunity to evaluate its costs and revenues.

Incentives: Faculty workload and compensation rewards ranked high as possible incentives as did training opportunities, offering of technical support, and creation of funding pools to finance collaborative efforts. The consultants suggested that consideration be given to distance education efforts in the merit and promotion process.

3. Project Role and Visibility - The project helped focus and clarify issues under consideration by the Ad Hoc Committee while bringing together in an electronic forum several university and state-level officials who will be key participants in developing fiscal policy in the area of distance education. It is expected that the findings from this project will form the basis for recommendations to be submitted to the Board of Regents during the coming year.

4. Consultant Role - Dr. Sally Johnstone, Director of the Western Cooperative on Educational Telecommunications, was contracted to work with the Ad Hoc Committee during the early part of project deliberations. She visited with the finance subcommittee of the Ad Hoc Committee in January, 1996 and helped formulate project strategy and refine fiscal issues while sharing information about distance education activities in other states. Jim Mingle and Rhonda Epper of SHEEO assisted in organizing the electronic forum by identifying key individuals across the country with knowledge and background in the issues to serve as our "consultants" on the project. These consultants, which included George Connick, President of the Education Network of Maine, Dan Layzell, Director of Research and Policy Analysis in the University of Wisconsin System, Kenneth Walker, Deputy Executive Director of the Kentucky Council on Higher Education, Mary McKeown, Associate Executive Director of the Arizona Board of Regents and Brenda Albright, former chief finance officer with the Tennessee Higher Education Commission and Vice Chancellor for Administration with the University of Maryland System played an invaluable role in broadening our understanding of the fiscal issues.

5. Project Impact - Because the Ad Hoc Committee has not had opportunity yet to complete final recommendations on fiscal policy following the conclusion of this project, it may be too early to determine its full impact. However, the views and opinions that have been shared by the consultants, who are associated with state governing and coordinating bodies and institutions, in addition to the comments and suggestions generated by the in-state participants, should lead to development of a more thoughtful and comprehensive policy in this area. The participation of this broadly-based group in our deliberations should also reinforce the credibility of future policy recommendations, particularly with the state planning and budgeting office, the legislature and other key decision makers who were included in the forum. In many respects, the process helped affirm and refine some earlier findings of the committee with respect to issues of organization, system and institutional responsibility, tuition policy, incentives and funding methods while causing some rethinking of ideas about institutional revenue sharing and competition. Finally, it is hoped that the policy recommendations that eventually emerge from this effort might serve as a model for other states now coping with these issues.

6. In Retrospect - Initially, one of the key objectives of this project was to consider how the formula might be revised to account for distance education. When it became evident that the current environment could have made formula funding reform a difficult and risky task that might raise other budget issues unintentionally, it was dropped from consideration in this project. This caused the project to lose some momentum since many of those on the Ad Hoc Committee felt that formula reform should be a vital part of any future funding policy affecting distance education and instructional technology.

It may also be the case that this effort was premature despite the fact that fiscal issues especially concerning interinstitutional coordination had already begun to surface. Many on the committee and in the University System see distance education still functioning in an entrepreneurial mode where institutions need the freedom to experiment with technology as they develop new courses and programs. To constrain local institutional initiative at this point in time by creating restrictive policy guidelines at the system level was viewed by some as counterproductive. In fact, many members of the committee saw the real issue as how to generate more funding for instructional technology, particularly to support personnel resources which had not been a major consideration in recent budget initiatives. Lack of adequate technical support personnel is considered a major obstacle to permitting each institution in the system to use distance education technology to its full potential.

This may begin to change as the Board undertakes the next phase of its strategic planning which will focus on maximizing use of existing system resources. High on the agenda for the Board's strategic plan is consideration of distance education's role in relationship to facilities planning and meeting projected increases in enrollment demand into the next century.

Appendix B

Redesign

Redesign

Higher Education Delivery Systems for the Twenty-First Century

SHEEO

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This inaugural issue of *Redesign* launches our effort to disseminate the ideas and products of the SHEEO project on "Gaining State Commitment to a Redesigned Delivery System." We hope that this newsletter will be a forum for discussion of important public policy issues facing the states and for the airing of creative "redesign" ideas.

Sponsored by the Fund for the Improvement of Postsecondary Education (FIPSE), the project was conceived in response to a mounting dilemma for American higher education: how to meet increased public expectations for access to a quality higher-education experience at a time of shrinking resources.

The "re" words in higher education—*reform, redesign, reinvent, restructure*—can often obscure more than they illuminate. But we believe they also reflect the willingness of institutional leaders and state policymakers to consider significant changes in an enterprise that for much of its history has been driven by the norms of tradition, not change.

Unlike many of the critics of higher education, however, we believe that states and institutions are undertaking far more innovation than they are given credit for. Change is afoot in American higher education, and at a rapid and exciting pace.

We plan to highlight that change and to examine closely the important role that state and system boards—both coordinating and governing—are playing in these changes.

State boards are also in the process of "reinventing" themselves. They are seeking new perspectives and processes regarding how they relate both to campuses and state political leaders. We will focus on these transformations as well.

The redesign of higher education, of course, is a work in progress, one whose final appearance can only be imagined from today's rough sketches. For the sake of debate, we will venture a few "redesign" propositions that we believe will shape the agenda of state boards in the years ahead:

1. Technology will be the single greatest force for change in higher education, today and in the future.

Not only will technology affect the "virtual" nature of the campuses but also the relationships among students, professors, and institutional leaders.

For state policymakers it may dramatically shift our investments from today's vertical to tomorrow's horizontal structures that cut across sectors and institutions.

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In upcoming issues we plan to highlight the developments in "distance learning" and their likely impact on states and state boards.

2. *Future governance and accountability structures may have little resemblance to those with which we are accustomed.*

While the structures of the past have sought to satisfy public officials, those of the future may look to customer satisfaction as the driving force of accountability. Increased competition and increased capacity, especially telecommunications capacity, will be powerful forces shaping the foundations of coordination upon which state boards have rested.

3. *The drive for productivity improvement will continue unabated into the twenty-first century.*

As Margaret Miller of the Virginia Council staff so aptly expressed it in a recent speech, "Our present situation can no more be called a crisis than periodic earthquakes in California can be termed an aberration." The current economic upturn notwithstanding, higher education will continue to compete for limited tax dollars to educate more and more students.

Each of the above has multiple implications for the agendas of state boards. In addition to a description of our three pilot states, this inaugural *Redesign* highlights new models for governance and accountability. In each issue we will also review recent state reports and actions and give you a reference for additional material.

We welcome your comments, your suggestions, and your contribution of materials to be included in upcoming issues.

[illegible]

Virginia

With approximately 65,000 new students expected to knock on the door by the end of the century, the State of Virginia is looking to restructuring as a way to contain costs and meet demand.

In 1992 the General Assembly expressed the intent "that Virginia's public institutions of higher education shall begin to effect long-term changes in the structure of higher education to minimize costs, as well as to prepare for the demands of projected enrollment increases."

The State Council of Higher Education (SCHEV), Virginia's coordinating board, was charged with describing how that restructuring might take place.

The Council's report to the 1993 General Assembly, *Change and Improvement in Virginia Higher Education: A Preliminary Report to the Governor and General Assembly*, outlined the fiscal and enrollment challenges facing higher education in the state and made a set of recommendations to meet them. The report also claimed that some of the changes would represent real improvement over existing practice.

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Design: the preliminary conception of an idea that is to be carried into effect by action

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The report's chief recommendations were the following:

- decentralization of authority for operating institutions;
- investment in new teaching technologies;
- curricular streamlining;
- competency-based credentialing;
- interdisciplinary approaches to learning; and
- reconception of faculty roles and rewards.

As a pilot state in the SHEEO-FIPSE project, SCHEV's next move is to involve faculty in discussions on restructuring proposals and initiatives.

SCHEV, therefore, will shortly be convening selected faculty on a number of public campuses to discuss changes in higher education in light of fiscal realities. The point of these discussions is to inform faculty of Virginia's fiscal situation, solicit their advice, and find out what SCHEV can do to help them and to move things along on the state level. Plans call for discussion to extend beyond these initial small meetings and permeate the discussions of other faculty groups.

The first round of meetings, currently in progress, will be completed in spring 1994, with a subsequent set of meetings the following fall. Each will be attended by two to three SCHEV staff members and seven to twelve faculty members, identified by the provosts and SCHEV staff as opinion-makers on their campuses.

The Council's strategy is to go directly to the operational level, where instructional delivery takes place. SCHEV believes that discussing restructuring ideas and broader state issues with faculty will result in creative, collective solutions mindful of fiscal realities and public policy issues.

Virginia has a broad array of redesign initiatives that need faculty commitment to succeed. The SHEEO/FIPSE project, therefore, will build upon those initiatives by facilitating the faculty dialog.

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Minnesota

Minnesota faces increasing demand for baccalaureate education in the Twin Cities area as well as the challenge to provide low-cost access to programs in large and sparsely populated rural areas.

Since these needs must be met within a highly constrained resource base, emphasis is being placed on computing and communications technologies as a key solution.

In response to a request from the Higher Education Coordinating Board, the 1993 State Legislature allocated $4.8 million to establish a statewide, digital higher education telecommunications network.

This commitment built upon Minnesota's already substantial investment in distance education and upon a significant computing capacity, including the world's largest non-governmental supercomputer center and a highly developed computer industry.

Given these technology resources, many policymakers believe that Minnesota's natural solution to the cost/access dilemma is a sophisticated instructional delivery system.

However, many within higher-education believe the issue is more complex. Technology continues to represent to them an apparent compromise with quality and, increasingly, a threat to job security. As a result, utilization of technology resources has been low, and resistance to replacing existing delivery systems with electronic ones has been high.

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To overcome these obstacles, the Minnesota project plans to address three fundamental questions:

- How can the use of technology improve student learning?
- How can technology extend access at lower unit-costs?
- How can faculty acceptance and utilization be increased?

Using a survey and regional forums, the coordinating board and the Telecommunications Council (also established by the 1993 legislature) will identify relevant issues with respect to students, administrators, faculty, student-services personnel, and policy makers.

It is expected this project will not only identify policy issues but will also promote better understanding of the implications of technology for decision-making. As a result, recommendations can be made for Minnesota's investment strategy for distance-learning.

The goal of the Minnesota SHEEO/FIPSE project will, therefore, be to help the state identify and resolve policy issues related to the expansion of distance learning. It will parallel the development of infrastructure and other coordinating-board initiatives involving alternative learning approaches.

For more information contact Joe Graba, Deputy Executive Director, Minnesota Higher Education Coordinating Board, 550 Cedar Street, Suite 400, St Paul, Minnesota 55101. (612)296-9665 Internet: GRABA@HECB.STATE.MN.US

Tennessee

For the past fifteen years, the Tennessee Higher Education Commission (THEC) has maintained a successful performance-funding system that provides incentives for quality improvement in the state's public universities and two-year colleges.

Design: a plan or scheme conceived in the mind of something to be done.

THEC plans to use the SHEEO/FIPSE project as an opportunity to apply a similar approach to encouraging improvements in efficiency and productivity.

The project's ultimate goal is a system of incentives that will encourage effective, efficient, and productive operation. Institutions and governing boards, under the leadership of THEC, will help develop the incentive system and oversee its implementation.

The first part of the project will serve to remind higher education leaders of the nature and sources of higher-education funding, economic outlooks for the next decade, and the status of the academic program inventory.

In spring 1994, there will be a meeting of chief executive officers, chief academic officers, faculty leaders, members of governing board academic staff, representatives of THEC and its staff, selected authorities from Tennessee state government, and invited panelists of national reputation.

THEC intends to recruit these leaders' support and assistance in devising an incentive system to meet the goals of the project.

Following the spring meeting, a task force will be appointed by the executive director of THEC to assist with the design of an incentive program focused on efficiency and productivity. This task force will begin its work in spring 1994.

Initial guidelines will be evaluated by the task force and presented to THEC at its regular meeting in spring 1995. Program guidelines will be implemented on an experimental basis at that time, impacting budgets developed for fiscal year 1996–97.

For more information contact Donald Goss, Director of Academic Programs, Tennessee Higher Education Commission, 404 James Robertson Parkway, Suite 1900, Nashville, Tennessee 37219 (615) 741-7564. Internet: GOSS@SOLAR.RTD.UTK.EDU

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Tenure on Track?

Last year, following a presentation I made to a group of faculty in South Dakota, a faculty member opined that he didn't believe states or boards of trustees would ever do away with tenure.

"Why is that?" I asked.

"Because it serves their economic purposes," he said. "Only with tenure, would we accept such low wages."

This struck a chord with me. While the protection of academic freedom remains an important function of tenure, tenure has also come to serve the more traditional "union" functions of providing economic security.

Art Hauptman, a consultant in the field of higher education finance, has observed that faculty tend to discount the economic value of tenure. While their professional counterparts in the corporate sector or in business for themselves worry about dislocation and periods of unemployment, faculty are relatively free of such turmoil and associated costs.

If tenure does, in fact, carry economic value, then it should be recognized in the compensation policies of institutions. Currently, institutional leaders have two levels of commitment from which to choose: they can either make what is essentially a 30-year commitment or they can limit it to one semester. In the former case, they hire tenured or tenure-track faculty; in the latter, they hire part-timers and adjuncts at considerably lower wage rates.

I would argue that there is need for a third alternative: the full-time "contract" faculty, who, given the economics of tenure, should be compensated at a higher, not a lower, wage rate than tenured or tenure-track faculty.

Let's consider how this might work in a field where the advantages of three- to five-year contracts might serve both faculty and institutional interests. These would be fields in which student demand as well as faculty research contracts may ebb and flow over time—engineering, physics, and math come to mind.

At the normal point when tenure decisions are made, faculty might be given a choice: either a contract for a specified period of time at, say, a 25 percent additional salary increment (in recognition of the additional risk they are assuming); or a more secure tenured position with a lower wage scale.

Encouraging faculty contracts as an alternative to tenure has several advantages. Institutions gain the means to build a committed full-time faculty core for a specified period of time and, at the same time, minimize the disturbing and increasing trend to over-rely on and exploit part-timers.

Also, instead of going through the cost of periodic "buy-outs" of tenured faculty, colleges and universities would be making investments at a higher rate but without the long-term commitments implied by tenure.

Faculty themselves would have the opportunity to view their careers differently. Rather than looking upon tenure as a "final resting place," they can plan careers that let them move between work in the private sector or for government and their teaching/research activities at colleges and universities.

Coming up with effective alternatives to tenure (without its outright abolishment) could do much to narrow the gap between the "public" world and the world of academics, who are increasingly viewed as living a sheltered life with which fewer and fewer members of the general public can identify. Changing these public perceptions of faculty would do much to improve public support. It's something to think about.

James R. Mingle
Executive Director

A Model for the Reinvented Higher Education System

Babak Armajani, Richard Heydinger, and Peter Hutchinson, **A Model for the Reinvented Higher Education System,** a joint publication of SHEEO and ECS with support from the Pew Charitable Trusts, January 1994.

This recent publication, part of the State Policy and College Learning Series, continues the discussion of how higher education can be restructured to meet the challenges—fiscal and other—of the nineties. This particular proposal, however, is among the most provocative of the series so far and has, we believe, the potential to stir the pot of higher education. What follows is a thumbnail sketch of some of the work's major ideas. Those who would like to read the full study, which includes a description of a redesigned system as well as possible steps for its implementation, will find information for ordering it at the end of this article.

Armajani, Heydinger, and Hutchinson call for a new methodology or "twenty-first century toolbox" to heighten higher education's responsiveness to the needs of those it serves.

This toolbox, which the authors call the **Enterprise Model**, envisions higher education as increasingly mission-driven, customer-sensitive, enterprise-organized, and result-oriented. It is built on a number of assumptions.

The first assumption is that **services are more likely to meet customer needs if customers can influence design**.

The authors believe that today's outcry for higher education reform is in part, the result of legitimate public concern about whose interests are really being met by decisions and policies. Each activity and unit, they say, must recognize who it is serving. They also believe that by making enterprises accountable to their customers, both in perception and in reality, public concerns regarding the purpose of higher education may be allayed.

The second assumption is that **institutional accountability for outcomes should be the basis for future funding.** In the authors' model, departments are held accountable for measurable results, and strong financial rewards and incentives are tied to reaching agreed-upon goals.

The third assumption is that employees and students will respond to **a more positive attitude toward student motivation and employee trust.**

The new model assumes that students want high-quality education and that they can be trusted to take responsibility for their actions. It also builds a climate of trust and high expectations in which faculty and staff creativity can be enhanced.

Having said this, however, the authors make clear that they are not outlining a scheme for privatization.

The Enterprise Model

The authors' proposed model unbundles higher education into a series of *enterprises* accountable to customers and conducted under the broad guidance of the Higher Education Policy Board.

The **Learning Connection Enterprise** has two highly integrated responsibilities: assessing student skills and competencies and housing extensive information on the nature and quality of programs offered throughout the system. These services are subsidized by sliding-scale fees to students based on their ability to pay or by state allocations based on volume and quality of services.

The **Learning Bank Enterprise** maintains the postsecondary educational account of all citizens in the state. All financial aid (including federal, state, and private awards) is deposited here to be drawn upon by individual students.

From the students' perspective, the **Educational Enterprises** are the counterpart of today's colleges and universities. Each enterprise is chartered by the Higher Education Policy Board to provide degree programs and instructional services. To fulfill its unique mission, each enterprise purchases instructional services, rents facilities, and contracts for academic support among both public and private vendors.

Teaching Enterprises are collections of faculty members organized to provide instruction and services to one or more educational enterprise. Their focus can be a discipline, problem, field of interest, or even a particular pedagogical style. The structure of each Teaching Enterprise can vary—some might be public corporations, private organizations, or even single individuals.

The fiscal health of both Teaching Enterprises and Educational Enterprises relies on satisfying customers, as well as satisfying one another. However, each entity has the freedom *and incentive* to generate revenue from other sources.

Public Higher Education Facility Enterprises operate and maintain all buildings systemwide, with the goal of producing the best possible return on the public investment in these assets. Although Educational Enterprises are their primary customers, Facility Enterprises would also have strong incentive to use the buildings they manage to increase their own revenues.

The **Learning Resources Enterprise** owns and operates library resources, including books, serials, the full panoply of videos and video discs, computerized data bases and data-base services, on-line catalogs, and capabilities for ordering reprints through an on-line service. Both Educational Enterprises and Teaching Enterprises contract with this enterprise for service and support.

Other enterprises contract with the **Learning Technology Enterprise** for computing, telecommunications, and multi-media services. Its function and purpose resemble that of the Learning Resources Enterprise.

The performance of all these enterprises is open to public review and comment. The effectiveness of each enterprise will be apparent from the size and diversity of its revenue streams. If customer needs are being met, business will be good. Thus, budget size is determined by each enterprise's ability to provide high-quality service at a good value, not on its ability to plead a convincing case before the state legislature.

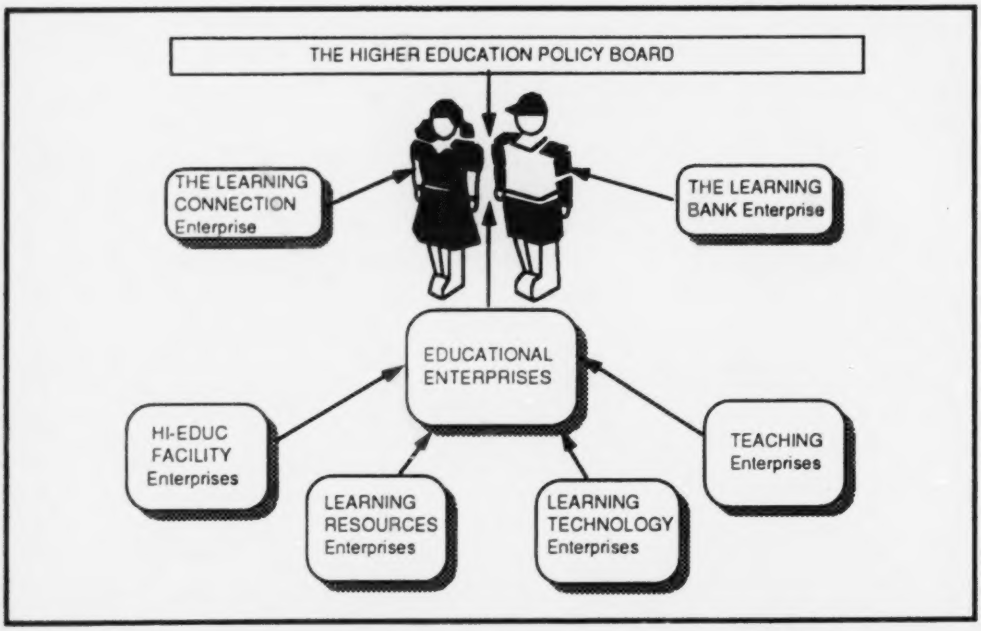
The Enterprise Model in Practice

The authors provide a sequential explanation of how student movement through the system activates the various enterprises in a university organized on the Enterprise Model.

As students contemplate decisions about post-secondary education, the authors say, they will visit a Learning Connection that reviews their transcripts and assesses their aptitudes, capabilities, and interests. Learning Connections are located throughout the state, in high schools and in other easily accessible places.

Upon enrollment in a particular program, students activate their learning account in the Learning Bank. The Bank links students to the variety of financial resources available to support the costs of attendance. The Bank is the depository for state appropriations supporting the cost of instruction, and it also enforces state policy guidelines such as residency requirements for in-state tuition. To pay fee statements, students transfer funds from their learning account to the Educational Enterprise of their choice.

With the purposeful separation between Educational Enterprises (institutions) and Teaching Enterprises (faculty), faculty represent a portfolio of resources available to many different Educational Enterprises. Incentives encourage faculty to "reach out" and make their services available for a fee to a wide variety of organizations, including grade schools, high schools, private corporations, and government agencies.


THE HIGHER EDUCATION POLICY BOARD
THE LEARNING CONNECTION Enterprise
THE LEARNING BANK Enterprise
EDUCATIONAL ENTERPRISES
HI-EDUC FACILITY Enterprises
TEACHING Enterprises
LEARNING RESOURCES Enterprises
LEARNING TECHNOLOGY Enterprises

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Leading Change

The authors suggest two methods for implementing the Enterprise Model.

To move a system forward, the authors suggest the following steps:

(1) Focus on the customer; (2) build regular measurement and feedback; (3) push decision making and accountability down; (4) make controls an asset; (5) build in continuous value improvement.

The alternative is to establish a pilot test.

According to the authors, the leading candidates for pilot testing are the Learning Technology, Learning Resources, and Facilities enterprises because they are the easiest to pull out of the current higher-education system and be given autonomy. They also could easily offer customers some choice of services—an essential characteristic of the Enterprise Model.

If selected, these enterprises would develop business plans to operate entirely off the revenues earned from those served while, in turn, paying the university for campus services received.

As the authors point out, enterprise principles are not strangers to the nation's campuses. Continuing education programs are a good example, as they are generally self-supporting.

Given the structure of higher education, the authors believe that the two tools with the most potential for creating effective change are *accountability* and *incentives*. If higher education can better align its accountability structure with customer needs, they say, public concern about declining quality can be mitigated.

Copies of **A Model for the Reinvented Higher Education System** are available for $7.50 plus $2.50 postage prepaid from SHEEO. Phone orders with purchase order numbers only; no credit cards. Contact Cathy Walker at (303)299-3686.

Around the States . . .

Faculty Workload: The Maryland Analysis

State coordinating and governing boards, often at the urging of public officials, continue to examine the effects of faculty workload policies on the productivity of higher education. As the single biggest line item expenditure, faculty costs are coming under continuing scrutiny.

Studies recently have been completed in Wisconsin, Ohio, and Hawaii and are ongoing in other states. The Maryland Higher Education Commission recently joined these states, examining faculty workload data provided by the University of Maryland System.

Using guidelines provided by the American Association of University Professors (AAUP), the Commission defined *standard load* as five courses per year in a Research–1 university such as the University of Maryland, College Park, and eight courses per year in a Comprehensive–1 institution such as Towson State.

By this definition, at College Park only one in five of the core faculty (tenure and tenure-track faculty) are teaching a standard load, and fewer than half the faculty are doing so at Towson State. (In response to this analysis, institutions have noted that these figures include faculty who have reduced loads due to administrative and research responsibilities.)

Design: a delineation, pattern

When the Commission extended its analysis to estimate the annual savings should all core faculty teach the standard load at these universities, the result was an estimated $20.7 million annual savings at the College Park campus (a potential faculty reduction of 315) and $4.2 million at Towson (a reduction of 74 faculty). For the system as a whole, potential savings were estimated at $34 million.

Assuming that all faculty were to teach the standard load, the Commission then compared current versus potential course offerings for individual institutions and the system as a whole. They found that a potential 3,886 additional courses could be offered annually to serve new and continuing students.

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According to Assistant Secretary Ron Phipps, "The study will help to focus discussion on the appropriate balance between teaching, scholarship, public service, and administration."

The Commission plans additional analyses of other four-year institutions and the community college sector in the near future. Copies of the complete faculty workload report can be obtained from the Maryland Higher Education Commission, 16 Francis Street, Annapolis, Maryland 21401 (410)974-2971.

Kentucky Completes Higher Education Review

On September 21, 1993, Governor Brereton Jones appointed the Higher Education Review Commission to address a wide range of issues on restructuring Kentucky public higher education.

This action came at a time when fiscal realities were limiting opportunities for every sector of government, including higher education. In exchange for sparing higher education another budget cut beyond two percent held in reserve, the Governor provided the opportunity to "remake higher education in Kentucky." He viewed this charge as a "fact-facing rather than a fact-finding mission."

The Governor's charge was to focus "on specialization, on quality, on performance, on cooperation, and on controlling expenditures." Recognizing that not all of the changes could be completed in a limited time, he called for decisions to be made and a meaningful plan recommended to set the appropriate direction.

Some highlights of the Commission's final recommendations are summarized as follows:

- Refined mission statements for each public institution were to be approved and presented to the Council on Higher Education for integration into its strategic planning process. Selection categories (i.e., very selective, selective, minimum, and open) were proposed for use in the mission refinement process and in differentiating levels of undergraduate admission standards.

- Certain programs were recommended for elimination or consolidation. Professional programs were to be evaluated in terms of supply and demand of professionals to meet statewide needs, particularly in underserved areas.

- State support of dental education was to be curtailed, while engineering education was to be maintained and enhanced. Legal and medical education were to remain basically unchanged.

- Performance-funding measures and distribution strategies were to be used to support funding in 1995–96. Principles were recommended to the Council and the Conference of University Presidents as the basis of a revised funding model to be developed during the 1994–95 interim.

- The Council on Higher Education was asked to conduct a thorough review of the extended-campus program and guidelines and submit its findings to the Governor during the 1994-96 biennium. The review is to consider alternative, cost-effective means of improving access, including the use of distance-learning technologies and the involvement of independent institutions.

Copies of the complete report of the Governor's Higher Education Review Commission can be obtained from the Kentucky Council on Higher Education, West Frankfort Office Complex, 1050 U.S. 127 South, Suite 101, Frankfort, Kentucky 40601 (502)564-3553. Internet: COUGC@UKCC.UKY.EDU

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Administrative Streamlining in North Dakota

In higher education, the Total Quality Management (TQM) movement has had its greatest impact on administration. The North Dakota University System, one of the national leaders in this effort, continues to innovate in order to cut administrative costs and, at the same time, improve services.

During the 1993–95 biennium, the Board directed a 10 percent reduction in administrative positions, merged the administrative teams of two institutions (a single president now serves two institutions), and directed the campuses to hold down spending during 1992–93 in anticipation of 1993–95 state funding reductions.

Since early 1993, the system's Administrative Affairs Council has studied reorganization of administrative activities in five areas: purchasing, human resources, payroll, budgeting, and student loan collections.

Traditionally, state systems have centralized such functions at the system level, sometimes creating large bureaucracies unresponsive to local needs and duplicative of remaining campus-based functions. By contrast, the North Dakota system is identifying lead institutions to serve other institutions in the system.

In the area of human-resource management, the system has established three service centers that will serve the 11 institutions of the system. These centers include employment, compensation/benefits, employee relations, training and development, and planning/research for the institutions in their service areas.

The North Dakota system is also establishing multiple, campus-based service centers for purchasing and materials-management both for their own campus and for other campuses. These changes will include "prime vendor" contracts and "just-in-time" inventory concepts to cut costs. (Prime vendor contracts are based on entering into a long term contract with one supplier. Such arrangements are expected to reduce acquisition costs by 15 to 20 per cent.)

New investments are also being made in the training of administrative personnel, an area in which colleges and universities notoriously underinvest. The North Dakota University System has set a target of one half to one percent of payroll for investment in training.

Ironically, administrative streamlining in North Dakota comes not because of a reputation for administrative "bloat" but on top of an historically lean administrative structure. Larry Isaak, system Vice Chancellor for Administrative and Student Affairs, notes that the state's two research universities spent nearly one-third less than their peers on administration according to a 1985 NCHEMS study. The study noted similar patterns in the community college sector. Apparently, the lean just get leaner but, hopefully, better.

For more information: See Larry A. Isaak, "Report on Streamlining of Major Campus and System Financial/Administrative Affairs Functions," October 1993. Copies can be obtained from the North Dakota University System, 600 East Boulevard, Bismarck, North Dakota 58505 (701)224-2960.
Bitnet: AULAI@UNDJES2

Illinois Establishes Committee to Study Affordability

In July 1993, the Illinois Board of Higher Education established a committee to study the affordability of higher education for students.

For the purposes of the study, the term *affordability* was defined to include not only traditional factors such as tuition, fees, and student aid, but also time-to-degree, academic calendars, and attendance patterns.

Among the topics of discussion are several measures designed to decrease the length of time it takes students to achieve their educational goals. Shortening time-to-degree is seen as a key variable in the affordability equation, leading to possible overall savings.

Specific measures for committee consideration include year-round attendance, a three-year baccalaureate degree program, and attendance options that accommodate significant work opportunities and permit students to increase educational resources available through self-help measures.

For more information on this initiative contact Kathleen Kelly, Deputy Director, Illinois Board of Higher Education, 4 West Old Capitol Plaza, Room 500, Springfield, Illinois 62701 (217)782-2551.
Internet:
KATKELLY@EAGLE.SANGAMON.EDU

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Other Voices

How Does Higher Education Need to Change? Increase the Emphasis on Quality and Productivity.

Because we believe that Redesign readers will find the following excerpt informative, we asked the Commission for Educational Quality for permission to reprint it here. It is taken from **Changing States: Higher Education and the Public Good** *(Atlanta, Georgia: Southern Regional Education Board, 1994).*

While a 17th-century physician would find the practice of modern medicine thoroughly befuddling, a teacher from the same century probably would be fairly comfortable with many practices of modern teaching. Every one of the learned professions is undergoing profound change as we adapt to the new realities of global competition, developing technologies, and economic scarcity. The faculty and their institutions may be the last to be shaken from their established practices.

The new information-based economy is characterized by flexibility: specialty products that are made-to-order; inventory control systems that deliver parts just in time for assembly into finished products; workforce teams who can perform a set of procedures, with each individual capable of many tasks; and collective rewards based on team productivity.

We need to consider similar changes in colleges and universities to improve both productivity and quality. The increasing diversity of students alone argues persuasively for rethinking the lock-step systems through which students have to move in pursuit of skills and knowledge.

The teaching model that still dominates higher education supposes that students bring the same knowledge and skills to a course and learn at the same pace and in the same way. Instead of being defined by the results that are expected—what will be learned—the course is defined as three one-hour classes per week for 13 weeks followed by an examination, term paper, or both. Forty or more of these courses, accumulated according to certain rules, equals a bachelor's degree.

Some institutions have moved away from this model. They are beginning to offer credit by examination in selected subject areas, recognizing that there are different ways to become proficient and to demonstrate mastery. As often happens, these strategies actually reflect the practice of an earlier time: that of "sitting for examinations" when the student felt prepared to receive a degree. Other colleges and universities have experimented at the edges with this approach, but more need to make it a significant part of the way they do business. . . .

Delivering higher education in different ways helps colleges and universities meet the needs of an increasingly complex and technologically sophisticated society. But there is an equally pressing economic reason: In order for colleges and universities to maintain or improve the quality of the services they offer, they must become less labor-intensive.

The economics are simple. Colleges and universities spend about 80 percent of their money on faculty and staff. There are not enough dollars elsewhere in college budgets that can be shifted to pay faculty and staff. New dollars continue in short supply. The costs of living rise. The best way to find dollars for faculty and staff salaries is to extend the effective teaching capacity of faculty. This does not simply mean more lectures or larger classes. Higher education budget problems have already produced these responses in state after state. The best way to extend teaching capacity is to reconsider our present assumptions about teaching and learning.

Design:• **Adaptation of means to ends**

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SHEEO/FIPSE Redesign Project
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Let us hear from you . . .

We invite your submissions. We also want to know about other states involved in restructuring efforts. Send your material to Rhonda Epper, Redesign Editor, at

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707 17th Street, Suite 2700
Denver, Colorado 80202–3427
(303)299-3627; FAX (303)296-8332
Internet: EPPERR@ZENO.MSCD.EDU

We'd also like to hear your comments on this newsletter as well as your ideas about how Redesign can serve as an effective networking tool for those involved in restructuring higher-education delivery systems.

Upcoming . . .

Future Redesign *issues will cover the following topics:*

Technology

Privatization

Enrollment Management

Curriculum Redesign

New Organizational Structures

Time-shortened Degrees

Redesign *is printed on recycled stock.*

Redesign

Higher Education Delivery Systems for the Twenty-First Century

SHEEO

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Rhonda Martin Epper

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11 Other Voices

This issue of *Redesign* examines the impact of information technology on higher education delivery systems of the future. Some policymakers are enthusiastically embracing these technologies as a solution to access dilemmas. Others are advising caution, lest we make unwise investments of scarce resources. Few disagree, however, that technology is changing the landscape in which we operate – changing the role of faculty and students, changing the competitive environment for institutions, and changing the funding and governance strategies of the states.

Faculty and Student Roles

A few years ago, Bruce Johnstone, then chancellor of the SUNY system, suggested that working toward improved learning productivity should be the goal of higher education. This places the focus on students and learning rather than faculty and teaching. State boards can influence the dynamics of learning productivity through policies that influence both student behavior and faculty capacity and commitment.

As our project and others have demonstrated, progress is being made in earning faculty commitment to greater use of technology. But students must be prepared and motivated to learn in a system where faculty are no longer sorting and interpreting knowledge for them, and where many faculty will, in fact, become mentors, tutors, and navigators of the Internet, assisting students who are engaged in interactive learning. Faculty also need to be prepared. Some may become "curriculum specialists," moving from work on text books to work with discipline societies, software companies, testing companies, and publishers on the protocols needed for this new interactive curriculum. A few will be highly visible performers who are "on stage" either through televised instruction, CD-ROM, or the information superhighway. Others, however, may not be engaged in instruction at all but in research, service, and contract activities with paying clients outside the institution.

Competition Among Providers

In a rapidly changing world, higher education institutions must meet changing demands or face obsolescence. And technology may well be the force that changes the competitive playing field. Much of state policy in higher education is built around the idea of "dividing up turf," an idea that technology is rapidly making obsolete. Such policy assumptions, we believe, will be severely tested in the future. Alternative providers, both state-sponsored and privately sponsored, are likely to compete with traditional higher education systems. While this increased competition has the potential for expanding access and lowering unit

Continued on page 2 ⇨

costs, "managing the competition" and assuring quality may well be the new role for state boards.

Funding and Governance Strategies

A new emphasis on learning outcomes and delivery systems could easily result in a "sea change" in state funding strategies. New coordinating and funding strategies include statewide technology councils that direct funds for cross-cutting activities, incentive funding for expanded use of technology, and administrative and purchasing consortia. As student options multiply, policymakers could be pushed to provide support directly to students, letting them decide among competing learning opportunities, all of which exceed the state's specified threshold of learning quality.

New investments in technology are not cheap. State boards will have to argue for increased capital investment in networks, equipment, and learning software as well as support for faculty and staff development. They will also have to increase their negotiating skills with the private sector over charges for transmission lines and ownership of delivery systems. Policies on tuition, faculty compensation, and funding formulas will all need to be rethought.

Myriad constituencies have influence over the direction in which technology will take higher education in the coming century. The proposals we outline here have multiple ramifications for state coordinating and governing boards. This issue of *Redesign* provides examples of current state efforts to integrate technology with the traditional higher education system, examines the regulatory and policy environment of telecommunicated learning, and provides references for additional material and state contacts.

As always we welcome your comments, suggestions, and contributions for upcoming issues.

EDUCOM LAUNCHES NATIONAL LEARNING INFRASTRUCTURE INITIATIVE

EDUCOM's National Learning Infrastructure Initiative (NLII) is harnessing broad support from higher education institutions, public policy organizations, hardware and software vendors, and publishers in order to bring about systemic change in American higher education.

For some time now, campuses and states have invested in a variety of technologies for academic support, computer-assisted instruction (CAI), library networks, computer conferencing, and distance learning. While these advances have provided some alternatives to traditional classrooms on campus, most either "bolt on" to the traditional classroom structure (adding cost) or use technology to replicate and extend the traditional classroom (sacrificing quality). Furthermore, these efforts have largely developed independently of one another and without the benefit of synergistic collaboration. Most remain marginal to the mainstream teaching and learning activities on college campuses.

NLII seeks to move beyond the more traditional uses of information technology. Envisioning a new instructional paradigm, NLII focuses on student-centered learning environments where technology increases learning productivity.

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> *What's important about technology is not its hardware or software, but its disrespect for boundaries.*
>
> *David Ward*
> *University of Wisconsin at Madison*

The National Information Infrastructure (NII), proposed by the Clinton-Gore administration, brings additional urgency to the effort. It creates a major opportunity for higher education to provide a rich teaching and learning environment that fosters quality, cost containment, and increased access to every home, school, and workplace worldwide. However, effective ways to use NII for teaching and learning need to be planned and developed. NLII will facilitate this planning by bringing together those with the knowledge, skills, and resources needed to address the technical, operational, economic, and cultural barriers to change.

As a founding member of NLII, SHEEO will examine state-level policies influencing progress toward a national learning infrastructure. This fall, SHEEO will consult with policymakers on state investment strategies for information technology. Shortly thereafter, SHEEO will produce a "request to participate" in a working session on this topic at the first NLII meeting in January 1995.

For information on joining this initiative or further inquiries, contact Carol Twigg, Vice President, EDUCOM, 1112 16th Street NW, Suite 600, Washington, DC 20036. (202) 872-4200. Internet: twigg@educom.edu.

SHEEO/WICHE AUDIOSEMINARS ADDRESS RESTRUCTURING WITH TECHNOLOGY

In cooperation with WICHE's Western Cooperative for Educational Telecommunications, SHEEO is sponsoring a series of three national audioconferences designed for SHEEO executives and their staffs. The series is titled "Understanding the Restructuring of Higher Education with Telecommunications." Its purpose is to engage participants in an interactive discussion of how telecommunications will affect financing and organizational structures in higher education.

The first conference, held September 28, addressed the new competitive environment technology is bringing to higher education through alternative providers. The second conference, scheduled for October 19, will examine restructured governance and finance strategies. The third conference, scheduled for November 16, addresses the impact of technology on the regulatory environment and what it means for policymakers in higher education.

Each audioconference features national experts, SHEEO staff members, and a SHEEO executive as the respondent. Lee Alley, Associate Vice President for Learning and Information Technology for the University of Wisconsin System, serves as host and moderator for the series.

For more information on the audioseminar series contact Sally Johnstone, Western Cooperative for Educational Telecommunications, P.O. Drawer P, Boulder, Colorado 80301. (303) 541-0231. Internet: sally.johnstone@colorado.edu

OREGON FUNDS TECHNOLOGY TO IMPROVE PRODUCTIVITY

Several years of declining state appropriations coupled with reduced numbers of faculty and programs required creative responses by the Oregon State System of Higher Education (OSSHE). One way the state chose to cope with reduced resources and greater demands on higher education was to appoint a Board Committee on Academic Productivity. Last October the committee announced recommendations on ways to improve academic productivity while maintaining the quality of higher education in Oregon.

The committee discovered that faculty in Oregon were already very productive in both instruction and research. Consequently, simplistic approaches such as requiring faculty to teach more courses would not bring about the kind of change needed.

Turning its attention away from "faculty" productivity, the committee examined new ways for students to obtain degrees that would maximize the public dollars spent on higher education. With a focus on "student learning productivity," the committee recommended that the state fund institutional demonstration projects in three areas: mastery learning, technology, and time-shortened degrees.

The Board of Higher Education accepted this recommendation and allocated $500,000 to be used for two rounds of demonstration projects. The first grant recipients emphasized collaboration among Oregon institutions and brought a diverse mix of projects on mastery learning, technology, and time-shortened degrees. The second grant recipients emphasized the use of technology to facilitate collaboratively offered degree programs and time-shortened degrees, and to meet access needs (particularly in high-demand programs). Demonstration projects are currently under way in a variety of disciplines, such as nursing, business, journalism, social work, foreign languages, philosophy, computer science, engineering technology, mathematics, and biology. A goal of all the projects is to build faculty capacity – through the use of technology – to enhance instruction.

OSSHE will review its 25 demonstration projects throughout fall 1994. The state's strategy to sponsor demonstration projects resulted in many innovative approaches, only a small number of which could be selected for support during this past year. OSSHE intends to continue this strategy as resources become available.

For more information on on this initiative, contact Holly Zanville, Associate Vice Chancellor for Academic Affairs, Oregon State System of Higher Education, P.O. Box 3175, Eugene, Oregon 97403. (503) 346-5724. Internet: zanvillh@osshe.edu

UTAH INVESTS IN TECHNOLOGY 2000

A broad, statewide initiative designed to propel Utah into leadership in information technology was funded with $28 million in the 1994 legislative session. Known as *Technology 2000*, this initiative will use new technologies to improve government services, efficiency, and access. The prime component of *Technology 2000* will be the UtahNet – a wide area network with capacity for interactive, full-motion video, audio, graphics, and data.

For higher education, UtahNet means the enhancement of an instructional delivery model that uses technology rather than traditional brick-and-mortar infrastructure. To that end, the legislature has dedicated $9.05 million (of the $28 million) to the Utah System of Higher Education for the purpose of expanding the use of technology at colleges and universities. The State Board of Regents Technology Subcommittee has recommended the funds be spent for faculty assistance and development, course development, classroom enhancement, and improvement of library connections and data base capabilities. Additional support will be used to offer a core of general education courses and complete degree programs through the Utah Education Network and to offer on-demand courses delivered via CD-ROM.

According to Dr. Jeffrey Livingston, Associate Commissioner for Academic Affairs and chair of the subcommittee, the future will bring greater use of on-demand, interactive instructional technologies that put the student in control of the learning process. The subcommittee is also considering providing seed money to institutions for innovative projects that use technology to improve teaching and learning.

For more information on this initiative contact Jeffrey Livingston, Utah State Board of Regents, 3 Triad Center #550, 355 West North Temple, Salt Lake City, Utah 84180. (801)321-7121. Internet: jlivingston@cc.utahsbr.edu

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BRIDGING THE GAP IN WEST VIRGINIA

Building upon existing instructional investments in satellite, public television, compressed video, and audio delivery methods, West Virginia's newest project, *Bridging the Gap*, further extends educational access to nontraditional student populations. While established distance education programs primarily serve a specialized upper-division and graduate audience, *Bridging the Gap* delivers an undergraduate core curriculum for both first-time and stop-out college students. In addition, the program focuses on college preparation and work force skill development.

Bridging the Gap has posed some challenging public policy questions for the State College and University Systems of West Virginia. The most important have concerned policies that could curtail access, such as student costs, admissions and transfer issues.

Costs – Students faced with the cost of tuition, transportation, child care, and other associated expenses often perceive traditional higher education to be beyond their reach. *Bridging the Gap* students pay "fees" in lieu of "tuition." Tuition costs are allocated to capital expenses, such as buildings and construction bonds, while *Bridging the Gap* fees are reinvested into the project. Additionally, discounts of $20 per credit hour are offered in particular areas of low economic stability, low college-going rates, and geographic isolation.

Admissions – Legislation creating the program specified admission standards lower than current institutional standards. To accommodate the new program, a new provisional enrollment status was developed whereby students are permitted to earn 27 credit hours prior to admission to a specific field. The provisional status allows senior citizens and other community members to participate in educational opportunities offered by *Bridging the Gap*.

Transfer Issues – Prior to this program, institutions had agreed to accept or award credits, but often only as electives or additional hours apart from on-campus courses. An examination of the educational histories of the first *Bridging the Gap* students revealed that many had accumulated a conglomeration of isolated credit and non-credit postsecondary courses. These students had taken advantage of any educational opportunity made available to them in their small communities. Now a student can enroll in a sequential program of courses that can eventually lead to an academic degree. Effective fall 1994, courses offered through *Bridging the Gap* will be selected from a list of 500 general studies courses in a statewide transfer agreement by which students may transfer courses for general studies credit to any institution in the State College and University Systems.

The initial success of *Bridging the Gap* indicates that electronic technologies can be used effectively to reach students in remote locations who have had only random exposure to higher education. With a systemwide focus, it is possible that this program, in conjunction with other distance education projects, can better serve an expanding market of educational consumers in the years ahead.

For more information see Bruce C. Flack and Sue Day-Perroots, "Access Through Distance Education: Collaborative Ventures in West Virginia," presented at the Professional Development Seminar for State Higher Education Academic Officers and Government Relations/Communications Officers, August 1994 (available from SHEEO, 707 17th Street, Suite 2700, Denver, Colorado 80202, (303) 299-3686). Dr. Flack may be reached at the State College and University Systems of West Virginia, 1018 Kanawha Boulevard East, #700, Charleston, West Virginia 25301, (304) 558-0261. Internet: flack@wvnscus.wvnet.edu

For background information on West Virginia University's Project Breakthrough, the predecessor to Bridging the Gap, see Sally M. Johnstone (ed.), New Pathways to a Degree: Technology Opens the College. A publication of the Western Interstate Commission for Higher Education, July 1994.

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The Regulatory and Policy Environment of Telecommunicated Learning

The following essay by Michael B. Goldstein is based upon remarks delivered to KPMG Peat Marwick's Conference on Restructuring and Reengineering the Academic Enterprise, December 1993. Mr. Goldstein directly addresses the ways technology is changing the competitive environment in higher education, making his message highly relevant for Redesign *readers. Those interested in reading the complete paper should contact Michael Goldstein, Partner, Dow, Lohnes & Albertson, 1255 23rd Street NW, Washington, DC 20037. (202) 857-2500. Internet: mgoldstn@capcon.net*

The telecommunications revolution is fully upon us, and for most Americans it is going to result in a reengineering of the learning process. The question is no longer whether change will occur, but when. Just as the automobile and the highway freed Americans from fixed modes of travel, so the egalitarian effect of *electronic* superhighways is changing forever the rules governing access to information and knowledge.

By its nature, telecommunications ignores the artificial boundaries set up by states. A television signal cannot be stopped at the border of a state, nor can a computer signal carried over a telephone line. Likewise, the "footprint" of a satellite may cover an entire continent, and anyone with a few hundred dollars can tune into its transmissions. Telecommunications, however, occupies what are called "natural monopolies." There are only so many television channels available in a given area and a fixed number of channels for satellite transmissions. Monopolies invite, and some would argue, demand, regulation. Because spectrum space is a *national* resource, most of that regulation has been federal, supported by the clear wording of the commerce clause of the Constitution.

The regulation of education, and particularly higher education, has historically been very different. The United States is virtually alone in the world in having so highly pluralistic a system of higher education. Education has always been regulated, but, in recognition of the long-standing premise that control of education was one of the powers left to the states by the framers of the Constitution, that regulation has been largely a state prerogative (albeit increasingly subject to overlapping federal oversight, driven by the student aid programs).

When one seeks to apply these different regulatory schemes to telecommunicated learning, problems abound. Putting aside legal posturing over the status of branch campuses that kept a few judges and a lot of lawyers busy for a while, the physical act of having an instructor meet with students within a state for the purpose of teaching is generally considered enough to trigger a state's licensure statute.

> ***Despite attempts to rewrite and polish state laws, the courts have quite consistently maintained that states lack the authority to block services offered in interstate commerce unless there is a compelling state interest . . .***

But what if the institution is delivering instruction electronically and is *not* present within the state where the signal is being received? Despite attempts to rewrite and polish state laws, the courts have quite consistently maintained that states lack the authority to block services offered in interstate commerce unless there is a compelling state interest that supersedes the federal interest in promoting commerce between the states. That is a very heavy burden for a regulator to bear, and few have been successful.

Some state regulators, often responding to the parochial cries of in-state institutions, have sought to convert statutes intended to protect consumers into instruments to exclude competition from encroaching telecommunicated educational services. Certainly it comes as no surprise that the first reaction to a meaningful incursion by another provider of educational services is the instinctive desire for self-preservation.

Despite this posture, technological change is widening the options for the use of telecommunications to deliver educational services. In February 1992 the Federal Communications Commission (FCC) created the Interactive Video Data Service (IVDS) with two licenses available in each of over seven hundred metropolitan and rural service areas. IVDS will permit TV viewers, whether over the air, cable, or satellite, to interact on what is called a "user-friendly, real-time" basis with their television programs. The proponents of the technology see its commercial value in allowing consumers to play video games, conduct financial transactions, order pay-per-view programs, and order merchandise. But the same technology will allow viewers to register for courses, download courseware, and interact with instructors – even though the instructor may be across the continent. While the FCC has declined to mandate educational use of a specified portion of each IVDS license, it is clear that prospective licensees see that use as economically attractive.

Ironically, the regulatory environment of telecommunications, on its face restrictive, actually encourages head-to-head competition. Education and training are high on virtually every proposal, license request, and franchise application, not merely because they add a certain panache, but because hard-nosed business people know that education and training represent a potential multibillion dollar customer base. Social utility is thus a positive factor, especially when it is driven by the quest for economic success. The telecommunications service that becomes a favored instrument for the delivery of education and training in the home and the workplace will have an enormous competitive advantage because the regulatory environment within which telecommunications functions is evolving to support that competition.

In its own interest, higher education must aggressively seek a role in the formulation of national telecommunications policy. Up to this point higher education has been conspicuous in its absence. Higher education must demand that when policy is debated on the NII, it is not just the telecommunications industry sitting at the table.

Technological change and the availability of telecommunicated learning will also dramatically alter the way dissemination of knowledge and training of the work force is financed. The costs associated with telecommunicated learning are neither necessarily greater or less than those for conventional delivery systems. But they are different. Licensing fees and royalties, access charges and downlink time are not in very many institutional funding formulae. The strategies for allocating costs that have served passably well for classroom-based instruction fail when the delivery system changes.

Institutions must look to new ways of financing their use of technology, and they must do so with a keen eye towards partnerships with a variety of telecommunications entities. Such partnerships, clearly supported by federal policy, *will* evolve. The only question is whether (and on what terms) present-day institutions will secure a place at the table.

> ***The "traditional" higher education community needs to learn how to compete in this new electronic marketplace.***

In the final analysis, the most important policy issues will be debated within our institutions. The "traditional" higher education community needs to learn how to compete in this new electronic marketplace. It is not that campuses will become ghost towns overnight. The socializing effect of college remains important, and for a great many students live interaction is essential to the learning process. But we face the loss of major segments of our present and future clienteles if we are unable or unwilling to take advantage of telecommunications to extend the reach of our campuses into the home, office, and workplace.

MARYLAND PLANS STATEWIDE DISTANCE LEARNING NETWORK

The state of Maryland is planning a statewide interactive distance learning network that will cost the state only the fees for monthly telecommunications charges normally included in public college budgets. When the network, known as MIDLN (Maryland Interactive Distance Learning Network), is completed, all public colleges and universities and all public high schools will be linked by a broadband digital fiber-optic, state of the art, full-motion interactive video network. Since this network will be based on digital technology, it will also provide the infrastructure for a statewide data network linking education, government, and business communities.

MIDLN represents cooperative effort by policymakers and private industry to respond to inequalities in educational resources and services across the state. Most of the state's higher education institutions are concentrated in central Maryland, resulting in high levels of participation in that region. In contrast, low levels of participation outside of the Washington-Baltimore corridor are testimony to the lack of access to higher education in those regions. Although community colleges are strategically placed in rural Maryland, there is a lack of upper-division and graduate instruction in these regions. MIDLN will address this deficiency and include a host of other applications in instruction, educational teleconferencing, training/continuing education, and computer networking.

The essence of the MIDLN project is in its private entrepreneurial nature. It is being installed and will be maintained by a private telecommunications enterprise. Through this partnership, the state gains the basic fiber-optic infrastructure needed for the telecommunications revolution predicted to occur during the next decade, and the private enterprise creates a source of solid customer support for the infrastructure. Network operations will be funded through monthly fees to users. These fees will be paid to the company that provides the connection to the campus or school, not to the state. Annual charges for a college to participate in MIDLN is estimated to be $16,380 annually or $1,365 per month, which is expected to decrease as the network grows.

Maryland plans to have 300 distance learning sites linked to the MIDLN by July 1, 1997. In addition, private employers in business and industry as well as a number of governmental units are expected to buy into the network as it is being constructed. According to Ron Phipps, Assistant Secretary for the Maryland Higher Education Commission, "MIDLN holds great potential for the future of Maryland, and it is possible to see it now!"

For more information see Ronald A. Phipps and David E. Sumler, "Maryland Interactive Distance Learning Network," presented at the Professional Development Seminar for State Higher Education Academic Officers and Government Relations/Communications Officers, August 1994. Available from SHEEO, 707 17th Street, Suite 2700, Denver, Colorado 80202. (303) 299-3686. Dr. Phipps may be reached at the Maryland Higher Education Commission, 16 Francis Street, Annapolis, Maryland 21401. (410) 974-2971.

GEORGIA'S LOTTERY, PUBLIC UTILITY SUPPORT TECHNOLOGY INITIATIVES

Georgia's investment strategy for educational technology has centered on three major initiatives: providing satellite downlinks in all schools, installing interactive video networks, and expanding the University System's data network, PeachNet. Two primary funding sources for these investments are the state lottery and a 1992 windfall refund of more than $50 million from telephone companies resulting from a Public Service Commission ruling.

In January 1993, the governor approved the use of state lottery funds to provide satellite downlinks for every K-12, vocational, and higher education institution in Georgia. Also through this fund, each education sector (university system, adult and technical education, and K-12 education) receives approximately $15 million per year to spend in deploying technology resources.

The Distance Learning and Telemedicine Act of 1992 directed expenditure of the $50 million tele-

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phone refund to establish interactive telecommunications networks for applications in education and health care services. The first phase of the program involved an allocation of $30 million through a competitive grant process to higher education institutions. Twelve distance learning projects involving 132 sites were awarded funds to use in developing data, multimedia, cable, and interactive video. In the second phase, $20 million was set aside for interactive video facilities and allocated to institutions not selected as sites in phase one. A total of 190 sites including all higher education institutions, vocational institutions, and a number of K-12 schools will be equipped with interactive video facilities by January 1995. Sixty telemedicine sites are also being installed.

With this substantial state investment in technology equipment, the university system wants to make sure its full benefits are realized. In fall 1994, the system chancellor appointed a committee for coordination and planning of the technology infrastructure as a whole. The committee will examine and make recommendations on policy, content, curriculum, training, and other programmatic issues. In addition, the committee will discuss new uses of educational technology such as on-demand, interactive courseware. Members of the committee will represent presidents, academic officers, financial officers, continuing education directors, technology specialists, and faculty. It will be augmented by six working committees comprised of academic and student affairs representatives, academic support personnel, and faculty.

For more information on these initiatives contact J.B. Mathews, Vice Chancellor for Information Technology, Board of Regents, University System of Georgia, 244 Washington Street SW, Atlanta, Georgia 30334. (404) 656-6177. Internet: jmathews@oit.peachnet.edu

Perspective

Will Information Technology Improve Academic Productivity?

Kenneth C. Green and Steven W. Gilbert

From film in the 1920s to television in the late 1950s, computers in the 1980s, and now "information technology" in the 1990s, the education community has harbored great aspirations for the use of new technologies that might enhance learning and instruction.

In the 1980s, during the much discussed "computer revolution in higher education," the computer was used as a tool for financial analysis in business or statistical analysis in the social sciences. Modest productivity benefits were also seen in academic programs as a growing proportion of faculty moved some of their work from mainframes and minicomputers to desktop systems and word processing.

Midway into the 1990s, however, colleges and universities confront a second major phase of this "revolution" – a shift in emphasis from the computer as a desktop tool to the computer as the communications gateway to colleagues and "content" – data bases, image and text libraries, video, and more – residing on computer networks. Technology advocates are fond of describing a future "information-rich" environment that will support instructional and scholarly activities.

But will information technology (IT) lead to the kinds of productivity gains implied or inferred by its most ardent advocates? Alas, not soon, and certainly not soon enough for many eager to control instructional costs or for others who promise that IT will enhance instructional productivity. A careful yet quick review suggests the real benefits will be in the area of content, curriculum, and pedagogy rather than "faculty productivity" and reduced instructional costs.

Infrastructure is the central issue affecting the effective use of information technology. Most campuses have barely begun to provide the necessary computers, telecommunications links, and

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staff required to support significant gains in productivity based on the effective integration of information technology. Moreover, many campus officials view the technology infrastructure – equipment, software, and support personnel – in only one way: a centralized service (similar to the library) that is an easy target for budget cuts in times of financial difficulty. Additionally, technology resources are expensive yet have a short-half-life – often less than 15 months. Most campuses do not have an amortization plan for "acquiring and retiring" needed equipment and software that becomes obsolete quickly.

And what about the faculty role? Among the faculty, campus experience of the past decade points to significant interest and effort among early adopters to incorporate IT resources into their instructional activities, coupled with slow gains in the proportion of "mainstream" faculty who incorporate these resources into their instructional activities.

But much also depends on what students want and are willing to pay for. The 15 million students – clients – enrolled in U. S. colleges and universities represent many different markets for educational training and services. Some interesting innovations such as Mind Extension University (MEU) use cable to bring college courses into homes at all hours of the day. (Students can even tape the lectures for viewing at a more convenient time.) But even with dramatic growth, MEU serves a very small percentage of the campus community's clientele. And part of MEU's costs are leveraged because it distributes content – video courses – developed (and perhaps copyrighted) by faculty based at traditional campuses across the country.

Those who believe that technology provides the "silver bullet" on quality and productivity should look at the experience of General Motors during the early 1980s. Seeking a quick fix to quality and productivity problems, GM invested billions to bring technology to its work force. One decade later, GM could not report major gains based on technology and was still experiencing declining market share.

The real long-term academic benefit of IT will be what it brings to pedagogy and the curriculum - additional resources that enhance the instructional tools used by faculty and the learning experience of students. Ample evidence documents the benefits on the learning-experience. Technology provides access to image data bases (satellite photos of the cosmos or the California coastline); statistical data bases (such as Census data) that students can use for class projects, remote libraries (which supplement resources available from campus facilities), and more.

In this context, there are two great risks that confront U.S. colleges and universities:

1) Many institutions will follow GM's path – experiencing the early frustration and then rejecting technology before achieving its potential; and

2) Only a few institutions will have the resources and commitment necessary to achieve the educational potential of information technology – providing access to superior learning options for students and new levels of faculty productivity.

Despite the time and money invested to date, colleges and universities are still in the "flat part of the learning curve" in the area of IT. We're still experimenting with using familiar technologies in new and different ways, with both our old and new clientele. Additionally, past experience suggests that new technologies always generate unanticipated applications – and benefits. In other words, the wisest technology advocate or planner cannot anticipate all the ways that new technologies might be used to enhance instruction and scholarship.

In sum, colleges and universities still have much to learn about how to develop a new IT infrastructure that provides *instructional* and *curricular* benefits. We must measure our great aspirations and institutional investments against what IT can really provide, not what we hope it might do.

Kenneth C. Green is professor-in-residence, and Director of the Technology, Teaching and Scholarship project at the University of Southern California. Steve Gilbert, Director of Technology Projects at the American Association for Higher Education, moderates a listserv on technology, instruction, and scholarship. To subscribe, send the message SUBSCRIBE AAHESGIT YOURFIRSTNAME YOURLASTNAME *to the following address: listserv@gwuvm.gwu.edu or contact Dr.Gilbert at (202)293-6440, ext. 54. Internet: aahesg@gwuvm.gwu.edu*

Other Voices

Letters to Redesign

In addition to networking among the states, one of Redesign*'s major purposes is to stimulate exchange on issues facing higher education. We welcome letters and will include as many as possible in future issues. Included here are two interesting letters we received in response to our* Redesign Extra *issue on Cheryl Blanco's study of time-shortened degrees. Full copies of the study will be available this fall from SHEEO for $10.00 prepaid: 707 17th Street, Denver CO 80202-3427. Phone orders with purchase order numbers only; no credit cards, 303-299-3686.*

From Kenneth Ashworth, Texas Higher Education Coordinating Board:

I am sure you have seen the recent *Doonesbury* cartoons on "course inflation" to give college level credit for remedial work. Recently I have had difficulty getting our community colleges to give up state funding and transcript credit for orientation and other "feel good" courses, and I won't go into all the arguments. So there is pressure from the bottom end of the program to dilute the quality of the content of the bachelor's degree, and we find on the other hand efforts to try to shorten the period of time students need to spend in such a degree. . . . Are we really convinced that we need to shorten degree programs in order to benefit our students? Or are we raising the question again because of all the money we are going to save in our straitened circumstances? Put me down as a skeptic on why we are looking at the three-year undergraduate degree and whether we are doing this in the interest of our students and educational content.

> *The new electronic interdependence recreates the world in the image of a global village.*
>
> *Marshall McLuhan,*
> *The Medium is the Massage (1967)*

From Kay McClenney, Education Commission of the States:

The whole goal – "shortening time to degree" – seems to me to fly in the face of reality, seen from the "client's" point of view. Are we talking only about traditional college-age students? Or should we take a more careful look at the way older students – scads of them, not only at community colleges but also at metropolitan universities and places like Cal State campuses – are using institutions of higher learning in ways and at times that suit their purposes? (The best description I've seen of such behavior is Cliff Adelman's *The Way We Are.*) Is that not what we expect the future to look like? – lifelong learners coming and leaving and returning again. Is not the "quality" movement about responding to client needs rather than forcing them into lock-step patterns? *At least* let us not suggest one more instance of one-size-fits-all policy. And if we *do* want to define time to degree as a problem, I'd suggest a little more balance in attributing responsibility. The piece seems to allocate the lion's share to students – and not much to the institution's behavior and priorities (e.g., students "are unable to enroll in classes"; how about "the institution fails to offer required classes"?)

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Let us hear from you . . .

We invite your submissions. We also want to know about other states involved in restructuring efforts. Send your material to Rhonda Epper, *Redesign* Editor, at

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707 17th Street, Suite 2700
Denver, Colorado 80202–3427
(303)299-3627; FAX (303)296-8332
Internet: epperr@zeno.mscd.edu

We'd also like to hear your comments on this newsletter as well as your ideas about how *Redesign* can serve as an effective networking tool for those involved in restructuring higher education delivery systems.

SHEEO Calls For Proposals

SHEEO members are invited to submit proposals for the second round of the SHEEO-FIPSE project, "Gaining State Commitment to a Redesigned Delivery System." In this round, we are looking for three state projects that emphasize the theme of learning productivity through either the use of technology or other innovations, or that experiment with state processes involving the direct participation of new constituencies, such as students and faculty. Proposals are due by December 1, 1994. For more information, contact Rhonda Epper at the SHEEO office, (303) 299-3627, Internet: epperr@zeno.mscd.edu

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Redesign

Higher Education Delivery Systems for the Twenty-First Century

SHEEO

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This issue of Redesign marks the beginning of Phase II for the SHEEO/FIPSE project, "Gaining State Commitment to a Redesigned Delivery System." In January 1995, three new pilot states joined the project: Florida, Georgia, and Oregon. These three projects are responding to a need for not only greater access and lower costs, but also an enriched learning experience for students. Put another way, each of these states aims to improve learning productivity.

As the work of the past few years has demonstrated, an interest in learning productivity puts the focus on students and learning rather than on faculty and teaching. Some institutions seek learning productivity through the use of interactive instructional technology. Others look for it in shortening time to degree completion or encouraging more purposeful enrollment by students.

No matter how learning productivity occurs, we believe state boards can influence the dynamics by altering policies that affect student behavior and institutional capacity and commitment.

Already we see evidence of this both inside and outside our pilot states. Maine, for example, created a controversial public electronic university that is extending access to place-bound students and developing new programs by using resources wherever they are found. The underlying rationale: to provide access to high-quality programs unconstrained by service areas and state boundaries. Minnesota has proposed the creation of an open-learning consortium that will develop and distribute courseware both within the state and outside its borders.

In the last issue of Redesign we outlined three areas that information technology will most likely affect – faculty and student roles, competition among providers, and state funding and governance strategies. Each of the new pilot states plans to address one or more of these areas.

Besides a description of each new state plan, this issue of Redesign will summarize the findings from Phase I pilot states, report on SHEEO's work with EDUCOM's National Learning Infrastructure Initiative, and continue the theme of telecommunications as a force for change in higher education worldwide.

Introducing the Phase II Pilot States . . .

Florida: Curing the Bottlenecks in General Education

Point-of-entry access to college has long been an important issue in Florida, but access to the degree has proved to be equally critical. As with many other states, Florida undergraduate education is rarely a clearly defined set of courses leading to a degree. What most students experience is a combination of programs and courses spread over several years, eventually meeting overall graduation requirements for a degree. Though administrators and state agencies plan around well-intentioned groupings with labels such as "upper-division" and "lower-division," students often flow freely across these groupings, taking whatever is available or required. In some cases, upper-division students generate much of the lower-level enrollment. The result is congestion or bottlenecks at the lower-division level with students unable to get into the classes they need to graduate.

Florida's project, therefore, is to identify ways to improve the delivery of critical undergraduate courses. In particular, Florida seeks to design a delivery system highly dependent on technology and highly independent of the traditional "faculty as teacher/lecturer" model. To accomplish this, the Florida Postsecondary Education Planning Commission (PEPC) intends to collaborate with the sector boards, institutions, students, and faculty to design a process by which students enrolled in a Florida public community college or university use distance learning and other technologies to complete critical lower-division courses.

As a first step, PEPC will identify high-demand, critical courses in congested program areas and then analyze the root causes of the bottleneck problem. Next, PEPC will explore alternate delivery options for these high-demand courses.

One possibility under consideration is designating lead institutions to deliver certain courses via distance education or through self-paced multimedia courseware. Students would have the option to choose the traditional campus lecture or other delivery options. The project may also involve working with institutions outside Florida for courseware development.

In setting up the project, PEPC plans to develop statewide policies for the redesigned delivery system. These policies will address program administration, oversight, funding, and evaluation of the effectiveness of this alternative as a means to improving student progress and retention.

For more information, contact Pat Dallet, Assistant Executive Director, Postsecondary Education Planning Commission, Florida Education Center, Tallahassee, Florida 32399. (904) 488-7894. Internet: dalletp@mail.firn.edu.

> *There is nothing to be gained by forcing new opportunities into the boxes of past experience.*
>
> *Barry Diller,*
> *from Wired, Feb. 1995.*

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Georgia: Funding Policies for Distance Learning

A conjunction of funding sources for educational telecommunications has given Georgia an enormous opportunity to tap technology's potential for extending access and improving student learning.

The Georgia Lottery program, the Distance Learning and Telemedicine Fund, and a $50 million refund from telephone companies have enabled Georgia to expand its technology infrastructure within and among the 34 institutions in the University System of Georgia (USG) and within the state as a whole.

The new information infrastructure in Georgia will provide access to a variety of information resources and services from almost anywhere. Included will be television (broadcast and two-way), voice, data, video, and multi-media. USG will from now on treat technology as "infrastructure" rather than as opportunistic embellishment, and will develop more routine methods of resource allocation and management.

Before the full educational benefits of this infrastructure can be realized, however, USG must address many policy areas. For example, educational structures, resources, and services will need to be reorganized based on the productive deployment of these tools.

USG created a University Committee on Distance Learning and Instructional Technology in fall 1994. With FIPSE project support, this committee will develop policy to govern the financing and costing structures associated with offering distance learning programs. Areas of fiscal policy to be addressed include operational funding, legislative budget requests, separate tuition/fee structures, standards for cost justification, and budget incentives for institutions.

Georgia will hold a multi-state meeting designed to help and learn from other states also developing fiscal policy to support distance learning and instructional technology. An additional outcome of the project will be a documented process or "road map" that other states might consider when embarking on a similar redesign process.

For more information, contact Joan Elifson, Interim Vice Chancellor for Academic Affairs, University System of Georgia, 244 Washington Street SW, Atlanta, Georgia 30334. (404) 656-2250. Internet: jelifson@mail.regents.peachnet.edu.

Oregon: Evaluating Productivity Initiatives

Beginning in 1993, the Oregon State System of Higher Education (OSSHE) initiated several major academic productivity planning efforts. These efforts focused on improving the quality of undergraduate instruction and providing efficient delivery.

OSSHE allocated $550,000 to system colleges and universities to support experiments with and evaluation of innovations leading to potential increases in productivity. Areas of emphasis included mastery learning, greater use of technology in instruction, and reducing the time required to achieve the baccalaureate degree.

Twenty-four projects were approved for funding, most involving interinstitutional collaboration and cooperation. The projects included offering credit courses through new venues, training faculty to use technology in preparing and presenting instruction, and using technology to address student learning problems.

OSSHE's goal for the FIPSE project is to evaluate the best ideas emerging from these 24 projects. It is hoped that the result will help Oregon strategically allocate productivity funds in the future. Categories for evaluation will include the following:

- curriculum redesign for serving large numbers of students
- faculty training in multimedia and technology for redesigning courses
- courses shared among various campuses
- new "mergers" between disciplines – for example, computer science and mathematics

Evaluation experts will meet with faculty on the projects individually and then in teams to discuss evaluation outcomes as a group. The teams will then consolidate their findings to identify those deserving of future state investment. Findings will be shared with other states considering similar seed money investments in productivity.

For more information, contact Holly Zanville, Associate Vice Chancellor for Academic Affairs, Oregon State System of Higher Education, P.O. Box 3175, Eugene, Oregon 97403. (503) 346-5724. Internet: zanvillh@osshe.edu.

Perspective

The following comments are based upon a forthcoming chapter by James Mingle and Rhonda Epper entitled "State Coordination and Planning in an Age of Entrepreneurship." The authors speculate on how state coordinating structures may be affected by changes in the political and economic environment of the states. The chapter will be part of a larger work, Planning Strategies for the New Millennium, *by Marvin Peterson, David Dill, and Lisa Mets.*

New Coordinating Structures and Values for the Decades Ahead

Whether out of necessity or by choice, we can expect substantial change to the structures and underlying values of statewide planning and coordination in the years ahead. Planning and regulatory structures will be aimed not so much at establishing limits but creating opportunity, especially in an increasingly competitive system of delivering higher education. In this environment, distinctions between public and private higher education will continue to blur, and this will be reflected in public policy.

An increasingly conservative state legislative agenda will have little stake in past statewide structures. At best, higher education will experience "benign neglect" as state policymakers focus attention on public schools, health care, and criminal justice. More likely, higher education policy will become more partisan and politicized as knowledge weakens about the origins and functions of existing structures. As a result, a number of changes can be expected in state planning and coordination:

1. A focus on the student consumer, not the institution. Public accountability concerns will shift from the teaching productivity of faculty to the learning productivity of students. Students will have much better information to make informed choices in the future, and public officials will take a "buyer beware" attitude about abuses. In this context, the state coordinating structure will be information gatherer, evaluator, and consumer advocate, as opposed to institutional advocate.

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2. The decline of the "role and mission" approach to planning. At the heart of many statewide plans has been the role and mission statement, delineating a territorial approach to program development. Already we are seeing an erosion of this practice (e.g., delivery of baccalaureate programs on community college campuses), a trend only to be accelerated by a technology that shows little respect for boundaries. It is not entirely clear what state boards will substitute for the role and mission approach – most likely institutional capacity and entrepreneurship will be the guiding decision points.

3. Privatization/Deregulation Initiatives. Those states with large bureaucracies that oversee personnel, hiring, and contracting policies for their public institutions will likely deregulate this sector, thus allowing institutions more autonomy. These moves will be opposed by employees and unions. The public system of higher education may evolve into the "public corporation" (e.g., Oregon) with smaller and smaller proportions of budgets coming from state tax dollars. State policy will be limited to establishing the parameters of this privatization and protecting the public from blatant forms of fraud and abuse.

4. Increased use of competitive and incentive funding. On the academic side, state boards can be expected to use the RFP as a substitute for constricted academic plans. Rather than waiting for new programs to emerge from individual departments and then granting approval (based on predetermined mission statements and program review criteria), centralized offices may solicit proposals for new programs and encourage collaboration across institutions and sectors (e.g., Oregon and Wisconsin). On the budget side, state legislators will increasingly specify the outcomes they are willing to pay for (e.g., graduation and employment) and funding formulas will follow suit (e.g., Ohio and Colorado).

5. High tuition/high aid strategy for financing students. As much out of necessity as philosophy, states will increasingly turn to a high tuition/high aid strategy. The number of middle- and upper-income families receiving subsidies through low tuition will be reduced and the consequent savings will be used to bolster student aid programs. In reaction, the middle-class (by definition most students) will seek other forms of subsidy, possibly through tuition tax deductions.

6. Promotion of interstate and international mobility. If the above scenario comes true, pressure may grow to increase student mobility across state lines and sectors, a practice that appears to be on the decline in the United States (in distinct contrast to Europe). High in-state tuition for the well-off will make out-of-state tuition moot, except for those dependent on financial aid. This will push policymakers to consider "portability" of state aid both across state lines and possibly internationally.

7. New forms of coordination. The new forms of voluntary coordination and coalition building may not be so much a new initiative as a return to old forms with new wrinkles. The statewide telecommunications councils now being formed to coordinate the development of technology policy in the states are the precursors. These councils cross sectors often involving other branches of state government and the K-12 system. Some may evolve into new delivery systems.

In the environment described above, state coordination is likely to change significantly but not disappear. One might argue that a public or quasi-public body concerned primarily with the "public purposes" of higher education will be an even greater necessity in the future. State boards, as in the past, will need to be advocates for the disadvantaged in a sometimes biased and unresponsive system.

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Open and Distance Learning

The following remarks are extracted from a paper recently prepared by Helmut Schweiger for the Minnesota Higher Education Coordinating Board (MHECB). Dr. Schweiger was formerly director of the Policy and Program Planning Division at MHECB. He now travels internationally studying open and distance education.

The paper was meant to stimulate public discussion in Minnesota regarding alternate approaches to delivery of postsecondary education. It preceded the 1995 MHECB legislative recommendations for the creation of an Alternative Delivery Structure and a Minnesota Credit Bank. The proposed new delivery structure would oversee the development and delivery of courseware and learning materials within and outside of the state. For a copy of the full report, "Open and Distance Learning", contact MHECB at 550 Cedar Street, Suite 400, St. Paul, Minnesota 55101, (612) 296-3974.

During the past 25 years, several forces have begun to drive alternate approaches to the delivery of postsecondary education: the democratization of postsecondary education; the needs of an ever more diverse student body; the demands of increasingly knowledge-based and technologically sophisticated economies; the expectations of consumers of education services; and the search of financially strapped governments for convenient, cost-effective, and efficient alternate ways to deliver postsecondary education.

Postsecondary distance education has been available in the United States since the late 1800s. It has not, however, enjoyed the same standing as conventional study. The establishment of the Open University in Great Britain in 1969 marked the beginning of a process to establish distance education and open learning as legitimate approaches for postsecondary education.

At present, the Open University of Great Britain enrolls well over 100,000 students, more than any other university in Great Britain. Thirty other open universities have been established worldwide.

> *Open universities do not teach in the conventional sense. They create learning opportunities.*

In the United States, a substantial and growing number of public and private colleges and universities have entered the distance education and open learning markets. Some colleges and universities are developing their own distance education capacities, while others combine their efforts in cooperative ventures or work within consortia.

The medium of transmission ranges from correspondence by mail to interactive television; work is also under way toward establishing "virtual classrooms." Unlike Europe and Asia, however, the United States has no single distance education provider that dominates the market.

Open universities differ from conventional colleges and universities on practically every level of operation and in their philosophy of education. Open universities have no campus. They provide their education services primarily at a distance. They have no dormitories. Their student population is widely dispersed. They do not have a "teaching" faculty. Their students are self-directed learners. Open universities do have learning support services, such as library services, laboratory experiences, and counseling. But they provide them in different ways.

> *. . . what it [open learning] most needs to gain momentum and to succeed is a focus, a decision structure committed to and responsible for its success.*

Open universities do not teach in the conventional sense. They create learning opportunities. The first step is the development of a learning package and a learning plan for each course. Modules within courses allow easy reworking of out-of-date portions.

The funding patterns and funding requirements of open universities also differ. While open universities do not require substantial investments in buildings, they require very substantial up-front funding for the production of learning packages. This investment must be made before any delivery of education services and before enrollment-driven income can be generated.

Some open universities are more multimedia education brokers and learning networks than stand-alone providers of postsecondary education. Multimedia education brokers and networks create learning opportunities and individualized education. Purchasing learning packages on the open market, they aim for quality and fiscal efficiency.

A review of successful programs worldwide suggests that a collective approach (i.e., uncoordinated development by several or all current providers) is not generally effective. If not a dedicated provider, there needs to be at least a statewide dedicated organizational framework.

Sharing of resources by various partners is needed. A successful approach to open learning needs an advocate with the authority to make decisions and allocate funds. Based on the evidence, what it most needs to gain momentum and to succeed is a focus, a decision structure committed to and responsible for its success.

Open learning has several implications for statewide coordination. Most pertinent are state oversight, credit transfer, and credentialing.

New technologies increase the complexity of oversight since "policing" providers may be impractical. An aggressive consumer education program may be needed, reinforced by credible rotating or spot audits.

Alternate approaches to postsecondary education will also require new approaches to credit recognition and credentialing. A legislatively mandated credit bank and/or assessment credentialing authority would be one solution. Any state that implemented such a credit bank would provide an important service to the learning public.

Miami-Dade Leads Development of Remedial Learning Materials

Miami-Dade Community College is helping to build support for the development of interactive remedial learning materials. This initiative responds to a growing proportion of students needing remedial work in mathematics, expository writing, reading, study skills, and English as a second language.

Since institutions currently spend millions of dollars collectively addressing this problem, "successfully integrating technology into remedial efforts would reap huge benefits for all educational sectors," says Carol Twigg, Vice President of Educom.

Miami-Dade hosted a meeting on March 27. Participants included SHEEO representatives from Florida and South Carolina and from the Southern Regional Education Board (SREB). The purpose was to exchange information about the issue of remediation; to learn about Project Synergy, a six-year effort among members of the League for Innovation in the Community College; and to explore collaborative efforts to be presented as an RFP at the second Educom-NLII meeting in June 1995.

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Around the States . . .

Phase I Pilot States: A Conference on Lessons Learned

At the outset of the FIPSE project, our primary objective was to explore ways in which state boards could help institutions restructure internally to maintain access and enhance student learning. With this understanding, Minnesota, Virginia, and Tennessee joined the FIPSE project in September 1993. Individually, each of those states was interested in a redesign agenda in the face of constrained resources and public pressure for change.

But as we proceeded, Peter Ewell, our external project evaluator, reminded us that change affects not only institutions but state boards as well. As a result, our focus subsequently expanded to include evaluating the processes by which state boards bring about change. What we learned is that boards are not only finding new strategies for bringing attention to the problem but also – and most exciting – getting commitment to change.

Some of the new strategies were demonstrated by the three pilot states in Phase I. But as Phase I ended, we wanted to go further. We asked state project directors to reflect on the broader change process in their states.

To enhance the discussion, we brought directors and other guests together in January 1995. Peter Ewell posed the question for the group: "In the overall context of your project, was there a 'clear and present danger' (e.g., a fiscal crisis) that drove the change process?" The answers varied by state and project.

Peg Miller (Virginia): *Most definitely, but the driving forces included a reconfiguration of the disciplines, changing needs of students, changing pedagogy, etc. On top of this and providing point and impetus were a lack of resources and increasing enrollments.*

Don Goss (Tennessee): *There was no clear and present danger, but a growth of conscience. In other words, the threat was internally, not externally, driven.*

Joe Graba (Minnesota): *We didn't have enough recognized clear and present danger. But it does exist. Corporations are spending billions on education and meeting previously unmet learning needs. We are allowing the creation of our own competitors by not meeting the demands of the customers we have now.*

During this phase of the meeting, we concluded that "clear and present danger" helps move a change agenda, but it may not be the overriding motivation.

The discussion that followed showed that it is as important to provide vision and direction throughout the process as it is to lay the groundwork for change.

Redesign in Virginia, for example, began in 1989 when the Commission on the University of the 21st Century set the direction for the future of higher education in the state. This positive vision, combined with several other board initiatives, helped sustain institutions through serious political criticism and subsequent budget cuts. This foundation made it easier for institutions to rise to public demand for restructuring.

The coordinating board in Minnesota helped lay the foundation for change by building political support over several years for new delivery systems. Based on previous support and infrastructure in the state, the 1993 legislature created and funded a Telecommunications Council made up of all education sectors in the state. With this background, the coordinating board recommended to the 1995 legislature the creation of an open learning consortium and credit bank.

Tennessee focused its efforts on reducing program inventory and preventing unnecessary duplication. In carrying out this traditional role, the board's primary emphasis was one of preparation for change. Said Arliss Roaden, executive director, "We needed to get institutions ready to tackle the tough issues that lie ahead."

"There is a big difference between downsizing and redesign," noted Jim Mingle, project director. "If the response to increasing demand is nothing but a rationing exercise and not a transforming exercise, then we have made no progress."

Peter Ewell agreed: "A true redesign agenda requires the agency to adopt a new role and vision for itself and can be observed through language that is transformatory in nature." At the same time, however, he advised caution because a change in one category necessarily spills over into another.

Several participants observed that state boards are beginning to move away from old categories and old ways of doing business. This is because a redesign agenda challenges the necessity of traditional categories and functions of statewide coordination.

Program duplication, geographic service areas, the 15-week semester, the credit hour, institutional missions, and many other categories – all have been identified by the pilot states for careful scrutiny.

J. Michael Orenduff, former chancellor of the University of Maine System, noted that these traditional categories are already on the table in his state. The board recently approved the Education Network of Maine as an eighth public institution in the state, with permission to seek accreditation. This first U.S. public electronic university is reconsidering admission standards, transfer policy, residency policy, the GPA, calendars, curriculum development, and a host of other issues. "Nothing is sacred," said Orenduff.

The issues identified in Phase I will shape and expand the discussion throughout Phase II of the FIPSE project. ◆

FIPSE Activities of Phase I States:

The State Council of Higher Education for Virginia

- engaged in a restructuring dialog with faculty on eight public campuses,
- opened the new dialog to all faculty by establishing an electronic listprocessor, and
- organized a Faculty Forum on New Approaches to Teaching and Learning for over 400 faculty members.

The Minnesota Higher Education Coordinating Board

- conducted a survey of students, faculty, administrators, and policymakers on attitudes toward future delivery systems,
- held regional forums to solicit input on the "optimal future" for distance education in Minnesota, and
- held a policymakers forum to present the survey findings and receive feedback from members of the legislature.

The Tennessee Higher Education Commission

- assembled a task force to study ways to provide incentives for efficiency and effectiveness in higher education,
- produced white papers that address ideas for greater institutional efficiency, and
- held a statewide meeting with broad representation from public campuses to discuss the papers.

SHEEO Forms Partnerships at Educom-NLII Meeting

In January 1995, more than 200 leaders and decisionmakers from approximately 75 institutions of higher education, educational organizations, publishers, and technology industries joined forces to address specific strategies for moving toward a national learning infrastructure.

Educom's National Learning Infrastructure Initiative (NLII) envisions a new instructional paradigm focused on student-centered, technology-based learning environments. To speed up its formation, the NLII has created opportunities for interested participants to form strategic partnerships. These partnerships are formed by NLII members who identify a problem then issue a "Request for Partners" in taking specific action toward scalable solutions. At the first NLII meeting in New Orleans, RFPs were presented and working groups formed around them.

SHEEO introduced its RFP on "State Investment Strategies" for information technology. Our objectives are to bring together partners who share an interest in intra- and inter-state program development and finding solutions to financing and governance dilemmas. We have already brought several partners on board to carry out the following assignments:

1. Examine alternative "investment strategies" and their impact on cost, quality, access, and productivity. Some state systems, for example, are working toward "universal access" of both students and faculty to networked workstations, others are concentrating on new entities to deliver distance education, while still others are providing incentives for "partnering" both across institutions and across systems.

2. Initiate a series of case studies and policy research topics that examine the differing approaches to coordination, governance, program development, and financing issues. These would be conducted by multiple authors who join our Request for Partners.

3. Create a series of working groups drawn from different states, institutions, and systems to examine the issues raised in the RFP, including recommendations for changes in state policy.

4. Form coalitions of institutions, systems, and states to develop programs and curricula.

5. Identify a cadre of experts to work closely with lay boards to improve their knowledge and appreciation for technology-based delivery systems.

6. Conduct a series of dissemination activities involving the wider policy community at the state level, including state-level conferences sponsored by participating partners.

Our first partner is the California State University System. Representatives from CSU plan to collaborate with us in two areas: 1) developing strategies to provide universal student access to learning resources; and 2) creating new financial and management models for integrating information technology into the fabric of the educational enterprise. The first action item will be a meeting of invited parties who have undertaken significant work in these areas to discuss the scalability of different models. We expect these initial working meetings, planned for late spring, to help us refine our objectives and identify new partners.

Besides creating our own RFP, SHEEO has signed on as a partner in two other NLII initiatives: a Wingspread meeting on academic productivity and a remedial math project led by Miami-Dade Community College. ◆

WICHE Begins Western Brokering Project

In October 1994, the Western Cooperative for Educational Telecommunications received a major grant for its Western Brokering Project through the new Telecommunications and Information Infrastructure Assistance Program (TIIAP) of the U.S. Department of Commerce. This project extends WICHE's 40-year commitment to increasing access to educational opportunities, and it is a major new initiative for the Western Cooperative.

The goal of the Western Brokering Project is to build an ongoing capacity to "broker" the educational resources of western higher education and, using existing telecommunications networks, to make higher education more widely available to underserved and place-bound students throughout the region.

The project recognizes that using educational technologies effectively depends on adequate training, faculty and student support, responsive administrative services, and effective student-teacher interaction.

"Brokering" includes the following services: mediating in the area of regulations and approval to operate; providing assistance for faculty, student services personnel, and administrators; working with campuses to develop marketing strategies; and developing receiving-site resources, such as academic and student support.

Six programs will be part of the TIIAP project during the first year:

♦ Associate Degree in Health Information Management, offered by the University of Alaska Southeast;

♦ Certificate Program in Emergency Medical Services Administration, offered by California State University, Chico;

♦ Associate Degree or Certificate for an Information Technician, offered by Front Range Community College, Colorado;

♦ M.S. in Space Studies, offered by the University of North Dakota;

♦ Certificate Program in Land Surveying, offered by the University of Wyoming;

♦ M.S. in Hazardous Waste Management, offered by the National Technological University.

The Project has issued an open invitation for institutions to nominate other programs for future consideration.

For more information about the brokering project, contact Russell Poulin, Director, Western Brokering Project at (303) 541-0305 or Internet: poulinr@colorado.edu.

Wingspread Hosts NLII Roundtable Meeting on Academic Productivity

A group of higher education policy and finance experts will meet at Wingspread this spring to discuss the economics of new instructional technologies. Facilitated by William Massy, this meeting will build upon much of his previous work with Robert Zemsky.

Improving instructional productivity requires a focus on process rather than function. Macro-functions like "teach a course" must be analyzed into subfunctions (e.g., convey facts, interpret information, provide writing experience, and evaluate student performance).

Analyzing subfunctions produces design specifications for the educational experience that can translate into resource requirements (e.g., faculty time, teaching assistants, support staff, and information resources). By considering both the teaching perspective (what a teacher teaches) and the learning perspective (what a student does in mastering a particular subject) different options can be identified for redesigning the educational process and improving productivity.

Following the roundtable discussion, Massy and Zemsky will produce a white paper for the NLII. The paper is planned for publication in fall 1995. ♦

SHEEO/FIPSE Redesign Project

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Let us hear from you . . .

We invite your submissions. We also want to know about other states involved in restructuring efforts. Send your material to Rhonda Epper, Redesign Editor, at
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707 17th Street, Suite 2700
Denver, Colorado 80202–3427
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Internet: 'epperr@zeno.mscd.edu

We'd also like to hear your comments on this newsletter as well as your ideas about how Redesign can serve as an effective networking tool for those involved in restructuring higher education delivery systems.

SHEEO Director on Leave with Educom

SHEEO executive director Jim Mingle has accepted a position as "Visiting Fellow" with Educom, the nation's premier higher education organization in the field of information technology. His work with Educom will begin in earnest in July and continue through the year.

Lowering costs, improving access and quality, and, thus, learning productivity are all on the agenda of higher education in the years ahead. His work, therefore, will focus on examining the efficacy of various state investment and public policy strategies to achieve productivity gains through technology. Dr. Mingle expects to return to SHEEO in early 1996.

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CHANGE WITHOUT CHAOS

At a recent retreat sponsored by the Association of Governing Boards (AGB), state coordinating board executives, system heads, and board chairs gathered to discuss the process of governance. How can we become a better, more responsive board? To whom should we listen? How should we organize our work as a board? How, in the words of one board chair, can we "effect change in higher education without creating total chaos in the system?"

Governance of public colleges and universities, reported Richard T. Ingram, president of AGB, is in turmoil. Board chairs are at war with their presidents, in part because legislators and governors are dissatisfied with the slow pace of change in the academy.

But no such division between lay chairs and chief executives was evident at the retreat as CEOs and chairs united around the goals of building public support and assuring accountability – unifying principles for both statewide coordinating and governing boards.

In talking about these goals, participants identified a number of impediments to getting on with their jobs. Topping the list was management of board time and information flow. Participants agreed universally that boards needed more time to focus on policy issues.

Suggestions to remedy this included more board retreats and committee structures built around important state goals (e.g., affordability and learning productivity) rather than around the traditional academic and finance committees. Many board chairs in attendance also spoke of the need to meet as a "committee of the whole" rather than parceling work out to subcommittees.

Other impediments noted were open-meeting laws that inhibit board discussions of important policy issues, lack of institutional memory, and parochial loyalties of individual board

Continued on page 2 ⇨

members. CEOs emphasized the role of the chair in imposing "board discipline" lest chaos reign.

Both board members and CEOs lamented the general decline of civility in public debate and called upon each other to sustain the tradition of reasoned debate, which, fortunately, has characterized higher education governance discussions throughout much of our history. One board chair suggested that state and system boards peg their decisions on the "doctrine of reasonableness" in the face of much overblown and irrational debate in the political arena.

The strengths of systems also were discussed – the ability to form partnerships and to build bridges between the external perspective of political leaders and the academy; the enormous intellectual and financial resources that collective systems can bring to the solution of a problem or state need; and most importantly, the capacity to build trust with the public and among individual institutions that make up the system.

Discipline, civility, reasonableness, trust – words to live by if you want to create change without chaos.

James R. Mingle
Executive Director

INSTITUTE FOR ACADEMIC TECHNOLOGY ADVANCES "DISTRIBUTED LEARNING ENVIRONMENTS"

Previous issues of Redesign have discussed SHEEO's partnerships and other related projects of Educom's National Learning Infrastructure Initiative (NLII). Another such project is the Institute for Academic Technology's (IAT) Partnership for Distributed Learning. The IAT partnership is led by William H. Graves, director of the IAT and chair of the NLII planning committee.

The University of North Carolina at Chapel Hill's Institute for Academic Technology (IAT) was created in 1989 in partnership with IBM Corporation. Its goal is to help educational institutions, publishing companies, and instructional software developers strengthen the quality of their instructional programs and products by taking advantage of multimedia and network technologies.

The primary audience of the IAT includes higher education faculty and academic officers interested in improving the quality of student learning and in containing the cost of instruction through the use of technology. Representatives of K-12 schools, corporate training programs, proprietary institutions, and

Continued on page 3 ⇨

Education is no longer local. Entrepreneurial universities, colleges, and new companies with national and global markets are going to compete with our local campuses.

George P. Connick
Education Network of Maine

continuing education schools also have taken part in IAT activities. Some of these activities include the following:

- Seminars to explain how computer and network technologies can enhance education
- Hands-on computer and application development workshops
- Satellite broadcasts on a variety of issues pertinent to educators
- Custom planning/training sessions

Additionally, a new IAT service known as the "Affiliate Program" provides a bundle of workshops, satellite broadcasts, and other services to a limited set of qualified, geographically distributed educational institutions.

Selected IAT Affiliates participate in "train the trainer" programs then provide high quality training for a wider audience than either they or IAT can reach alone. The initial emphasis is on the use of "authoring" tools such as ToolBook and Express Author. By offering training in the use of educational technology to multiple institutions in a geographic region, the IAT Affiliate Program offers an alternative to expensive in-house faculty development and training programs.

Another IAT program is the Partnership for Distributed Learning. As part of the Educom NLII, IAT has requested partners interested in "distributed instruction" and the role that the World Wide Web can play in creating "distributed learning environments."

What exactly is a distributed learning environment? It exists among a dispersed student population in which real-time or asynchronous interactions occur between learners, instructors, and instructional content.

According to Diana Oblinger, manager of solution integration for IBM and coordinator of IBM's role in the IAT, distributed learning implies multiple access points and multiple learning opportunities supported by a common technological infrastructure. A distributed learning environment might include a student interacting with a multimedia self-study module, a faculty member and a student sharing a common "whiteboard" on their respective computers during a computer-based videoconference, or a student reviewing an online syllabus.

The ideal distributed learning environment, according to Bill Graves, combines the best features of traditional instructional models with the new asynchronous learning enabled by campus networks and their connections to the Internet. Because the World Wide Web has become an open standard for navigating and publishing on the Internet, the partnership's initial effort will be to enrich the "Web" as a medium for delivering courses and curricula. The goal of the IAT-NLII partnership is to demonstrate a commercially viable model for creating distributed learning materials.

For more information on IAT programs, including the Affiliate Program and the Partnership for Distributed Learning, contact William H. Graves, Director, Institute for Academic Technology, P.O. Box 12017 Research Triangle Park, NC 27509. (919) 405-1938. Internet: bill_graves@unc.edu.

COLORADO ELECTRONIC COMMUNITY COLLEGE OPENS ITS "DOORS"

In 1995, the Colorado General Assembly created a twelfth community college campus within the state system of community colleges. The new campus was named the Colorado Electronic Community College (CECC) because of its unique structure and mission.

In collaboration with Jones Education Networks, Inc. and other partners, CECC will serve as an umbrella organization that offers a full range of transferable general education curricula through television, telephone, Internet, CD-ROM, and satellite technologies both to Colorado and the nation.

CECC will use the services of Jones Intercable's Mind Extension University to deliver curriculum to learners wishing to complete an Associate of Arts or Associate of Science degree. Jones will make available CECC's video programming to its millions of cable viewers throughout the United States and will provide admissions, billing, records, bookstore, and student advising support to CECC students. Faculty from existing state system community colleges in Colorado will create, manage, and deliver instructional services to CECC students.

Because CECC is not yet independently accredited, the AA and AS degrees initially will be awarded by Arapahoe Community College, one of the existing eleven campuses in the state community college system. According to Jerome Wartgow, president of the Colorado Community College and Occupational Education System, CECC eventually will seek its own independent regional accreditation.

When the state legislature decided to create CECC, it also wanted to make sure faculty and other public and private users would be trained in the use of educational technology for enhanced learning. To further advance technology infrastructure development, legislators appropriated $8.7 million in 1995 to the state community college system.

Part of this funding, with additional support from Jones Intercable, will be used to develop a state-of-the-art curriculum production facility. The new facility is located at the Lowry Higher Education and Advanced Technology Training Center, the site of a recently closed air force base undergoing conversion to civilian uses. The facility will provide opportunities for faculty to produce their own curriculum products, such as CD-ROM masters, video programs, and Internet curriculum.

CECC began offering its first courses in September 1995. Five courses, including psychology, English composition, ethics, sociology, and statistics, are being offered to a total of 60 registered students from Colorado, California, New Jersey, Maryland, Oregon, Texas, Florida, and Hawaii. The CECC curriculum production facility at Lowry is scheduled to begin operation in July 1996.

For more information on the Colorado Electronic Community College, contact Mary Beth Susman, Executive Director, CECC, Colorado Community College and Occupational Education System, 1391 North Speer Boulevard, Suite 600, Denver, Colorado 80204, (303) 595-1562. Internet: sb_marybeth@mash.colorado.edu

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Texas Promotes Cooperation Among University Libraries

The Texas Legislature appropriated $1 million in each of the past two biennia for a project to facilitate sharing of university library resources. The project, called TexShare, originally was proposed by the Texas Council of State University Librarians and is funded through the Texas Higher Education Coordinating Board.

TexShare includes several complementary activities, many of which emphasize the expanded use of technology. For example, all libraries not already connected to the Internet have been connected, and proprietary software allowing transmittal of document images over the Internet has been provided to each library. In addition, a gopher and a World Wide Web site have been established to provide access to over 30 of the card catalogs in participating institutions.

To better avail students of library resources, a TexShare library card system has been implemented. The TexShare card gives students and faculty members in any public institution access to library resources in any other public institution in the state. Other actions to improve coordination include the development of a common inter-library loan protocol and a Regional Acquisition Council that meets regularly to coordinate the purchase of library materials.

For more information on library initiatives in Texas, contact David Gardner, Deputy Assistant Commissioner, Texas Higher Education Coordinating Board, P.O. Box 12788, Austin, Texas 78711. (512) 483-6150. Internet gardnerd@thecb.texas.gov.

SHEEO/FIPSE Redesign Meeting to be Held in Florida

The Florida Postsecondary Education Planning Commission (PEPC) will begin disseminating its SHEEO/FIPSE project work at a meeting on November 16–17, 1995 in Jacksonville, Florida.

The Florida project, known as "Improving Access through Technology," was designed to enhance student progress and success by improving critical undergraduate course delivery through technology. Specifically, high-demand, critical courses have been identified that are causing enrollment "bottlenecks" because of high withdrawal or failure rates. Through site visits, interviews, and data analysis, the project steering committee has identified three courses that will be targeted for enhancement through technology: Algebra, Calculus, and Chemistry.

The November meeting will be held in conjunction with the Florida Higher Education Consortium for Mathematics and Science. The purpose of this meeting is to increase faculty awareness and involvement in the SHEEO/FIPSE project and to provide an opportunity for interaction among faculty and representatives from nationally recognized technology learning initiatives in the three priority curriculum areas.

In addition, members of the SHEEO Redesign Advisory Committee from other states will be invited to meet with the project steering committee to discuss policy and fiscal issues and possibilities for interstate partnerships.

For more information on this meeting, contact Pat Dallet, Assistant Executive Director, Postsecondary Education Planning Commission, Florida Education Center, Tallahassee, Florida 32399. (904) 488-7894. Internet: dalletp@mail.firn.edu.

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COMPUTERS FOR ALL STUDENTS: A STRATEGY FOR UNIVERSAL ACCESS

Mark Resmer, James R. Mingle, and Diana Oblinger

Computers for All Students: A Strategy for Universal Access to Information Resources, a publication of the State Higher Education Executive Officers, November 1995.

This new publication is the first in a series of reports to emerge from the joint efforts of SHEEO and the California State University System, under the auspices of Educom's National Learning Infrastructure Initiative (NLII). These reports will examine the application of technology to the educational challenges of our time. The purpose of this report is to explore the policy and implementation issues involved in providing universal student access to technology, which means ensuring each student has 24-hour access to a laptop computer and the Internet. What follows is a summary of major points addressed in the report.

To order the full report, contact Cathy Walker at SHEEO, 707 17th Street, Suite 2700, Denver, Colorado 80202. (303-299-3686). Each copy is $15 including shipping and handling. Phone orders with purchase order numbers only; no credit cards.

State and institutional leaders are asking higher education to assist students in reaching a higher level of learning productivity. Because information technology promises learning-productivity improvements, institutions are looking for ways to provide students with greater access to technology resources.

For a variety of reasons, the emphasis has shifted away from public access computer labs located on campuses. The emerging model is for students to "own" a laptop computer and have 24-hour access to a computer network.

Why provide students with 24-hour access to a networked laptop? One reason is the growing importance of networked information and communications. Students must have access to information resources integrated into their educational experience. The goal is "any time, any place" access to information resources. The rationale for universal access arises from the following factors:

1) **The increasing amount and dynamic nature of knowledge that students must absorb.** The body of recorded knowledge is growing at such a rapid rate that it is no longer possible for traditional tools (e.g., paper formats) to keep pace.

   As the availability of electronic information increases – from libraries, museums, and other sources – the amount of time that each student spends using a computer will increase. Personal, continuous access to computers and the network becomes a necessity to enable information resources to be integrated into the student's academic experience.

2) **Changes in educational paradigms.** Technology can serve as a catalyst for change from teacher-centered to learner-centered approaches to education.

   When faculty and students have a high level of access to technology, more active forms of learning can be encouraged. Classes can be structured so that students learn by doing and discovery instead of passively receiving information delivered by faculty. Universal student access focuses on the student as an independent producer of learning rather than a passive customer of teaching.

3) **A desire for improved communications.** Communication between faculty and students

can be enhanced by access to networked computers.

For example, a student can post a question to a faculty member by e-mail instead of seeking out the professor during office hours. With assured access among faculty and students, computer-mediated communications may also replace less efficient media such as class handouts or hallway postings.

4) **The rapid pace of technological change.** With new products entering the market on six to nine month cycles, institutions with universal access strategies are better able to keep pace. Lease arrangements, for example, may allow computers to be replaced annually or bi-annually.

5) **The changing nature of students.** Many students work part-time or full-time, are motivated by career or work-related factors, and have family commitments – all of which make it difficult or impossible to use campus computer labs, which often have outdated equipment, are only available during limited hours, and are often overcrowded.

Responding to the needs of nontraditional students will be crucial to the competitive success and even survival of many institutions. Universal access to technology not only maximizes the learning productivity of students and increases the relevance of higher education to students and society, it also enhances equity of access to information and education. Students with the means to purchase computers are already doing so (national estimates are around 40%), giving them a significant advantage over students who must rely on computer labs.

As demand for access to technology grows, this situation can only worsen. The universal access strategy offers an opportunity to address disparities of access to information resources.

With colleges and universities already facing enormous financial pressures, strategies such as universal access to networked computers must make good educational sense and good financial sense. Expenditures that do not contribute directly to the learning productivity of students – and their ability to gain the knowledge to succeed in a competitive world economy – will be difficult to justify to either policymakers or students.

The costs for universal access must be borne jointly by the student and the institution. Several important financing issues raised by institutions with existing universal access policies include the means by which a student possesses a computer (loan, lease, purchase, etc.), the decision to assess a technology fee or build the cost into a tuition increase, financial aid issues, and funding the network infrastructure necessary to support universal access.

In implementing a universal access strategy, institutions must decide whether to phase in the policy slowly or adopt it in one step for all students. Decisions must be made on whether to adopt a single model of machine for all students, allow differences among departments/disciplines, or permit students to decide what kind of computer to purchase. There are advantages and disadvantages associated with each decision.

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Introduction of a universal student access policy represents a major shift in the way an institution operates. It affects many aspects of institutional culture and thus requires significant planning before successful implementation can occur. Extensive dialog with students, faculty, administrators, executive management, and governing bodies is necessary to enhance support.

Faculty concerns typically involve making a hasty or "radical" decision, ulterior motives for the decision, depersonalizing education, faculty development and tenure criteria, and affordability for students.

While students initially may resist universal access programs, they are quickly convinced that these programs are in their best interest. They believe that exposure to technology applications will give them a competitive advantage in the job market upon graduation. So far, institutions that have announced universal access programs have seen the number of applicants for admission rise, while also eliciting enthusiasm and support from employers and the public.

Institutions that have successfully implemented or are in the process of implementing a universal access strategy contributed many ideas contained in this report. Among these are the University of Minnesota-Crookston (contact Bruce Brorson, Internet: bbrorson@mail.crk.umn.edu), Sonoma State University (contact Mark Resmer, Internet: resmer@sonoma.edu), Wake Forest University (contact Larry Henson, Internet: larry@wfu.edu), and Drexel University (contact Arthur McMahon, Internet: art@duvm.ocs.drexel.edu).

PERSPECTIVE

Bruce Johnstone Discusses "Learning Productivity"

In the Summer of 1993, D. Bruce Johnstone, then chancellor of the State University of New York (SUNY), convened a meeting of higher education leaders to discuss the concept of "learning productivity," a term that immediately captured the imagination of many present and subsequently has been used as a central theme of the SHEEO Redesign project.

Following this 1993 meeting, Bruce became ill and resigned from the SUNY Chancellorship. His recovery and reentry into the policy world of higher education has been welcomed by his many friends in higher education. He now serves as University Professor of Higher and Comparative Education at SUNY-Buffalo and has recently launched "The Learning Productivity Center" with support from the Ford Foundation. In the interview that follows, Johnstone discusses the concept of learning productivity with SHEEO Executive Director James R. Mingle.

Mingle: Welcome back, Bruce. In your absence we've been using your work and your concept "learning productivity" a great deal. What inspired you to coin the phrase?

Johnstone: I was struck by how much attention was being paid by policymakers and our critics to the "cost" side of the productivity equation. In the early 1990s (and it continues today), there was an obsession with restructuring, downsizing, administrative reorganization, faculty workload, and other cost-cutting measures. I just didn't believe that these issues were the root causes of the productivity problem.

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Mingle: Thus, your emphasis on outputs, the most important of which is student learning?

Johnstone: Exactly. The major problem facing higher education is not excessive costs but insufficient learning.

Mingle: Would you elaborate?

Johnstone: From the perspective of learning, the culprits in higher education's resistance to productivity are such practices as redundant learning, excessive drift and aimless academic exploration, lengthy vacations and poor use of the full learning day, insufficient use of self-paced learning, and failure to fully utilize the potential of students to take on collegiate-level learning in their high school years.

Mingle: Governor Romer (Colorado) often talks about the shrinking academic calendar. To the layman and the general public, we appear to be on a pretty brief work schedule, both students and faculty.

Johnstone: Clearly, the prevalent pattern of only two 15-week teaching-learning semesters is shamefully wasteful of the student's learning time. And that has dropped from an earlier pattern of 18-week semesters that was minimal enough to begin with. The causes seem to be a combination of students' natural fondness for time away from learning, students' need to earn money over long summer vacations, and the newest wrinkle, energy savings, which prolongs the winter break in the northern states to save on heating bills. But the upshot is that far, far too little of the year is spent in learning. And whatever the length (or shortness) of the semester, the number of non-learning days in the week, and the number of non-learning hours in that teaching day, are arguably even more egregious examples of wasted learning opportunities.

Mingle: We've had much discussion at the state level about limiting the length of the baccalaureate degree. The state of Florida, for example, recently set an absolute cap of 120 credit hours on baccalaureate degrees. Other states, such as North Carolina, are limiting the number of credit hours that can be taken at in-state rates. What do you think of these actions?

Johnstone: There is no doubt that the length of the degree is a part of the problem, but the solutions are not simple. We do not want to place excessive limits on students' chances to change their majors, for example, when they are turned genuinely in new intellectual or career directions. But many of the excesses are more the fault of the college: lower division general education curricula that simply do not accommodate transfers, for example, or greedy majors that require too many prerequisites, or inadequate advising that allows more aimless exploration than is necessary. These have to be curbed, and both the student and the college may have to bear additional costs for degrees that are too lengthy with no justification.

Mingle: Much of our concern in the public arena has been aimed at holding institutions accountable for the effective use of resources (i.e., inputs). Does an emphasis on outcomes and learning productivity shift the accountability debate to the student? In other words, what is the student's responsibility for his or her own learning?

Johnstone: Both the student and the institution, as well as the "system," as it were, are responsible.

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and all must be held accountable. What this really means is that we have to figure out why these parties behave as they do currently, and then figure out how to make them behave differently. But, fundamentally, it must become in the self-interest of the student and the institution to use the limited learning time and the limited learning resources more effectively.

Mingle: You also talk about more collegiate-level learning taking place during the high school years. What is the potential for productivity gains here?

Johnstone: This is a very old idea, bringing the period of what we might call college-level learning forward in age, to about 15 or 16 rather than 17 or 18, and then being able to begin the "second degree" – that is, graduate and advanced professional studies – commensurably forward to perhaps the early twenties. This is not really a shortening of either the first or the second tertiary-level degrees, but simply beginning the substance of their content at earlier ages. But the move toward more college-level learning in the high school years has the wonderful additional advantage of restoring meaning to what is often now referred to as "the lost twelfth grade" – adding some real stakes to the learning in that year.

Mingle: Remediation – especially in math and writing skills – is an enormous problem in higher education. Any new solutions here?

Johnstone: I think it is often assumed that there is waste whenever one has to teach at a postsecondary level what was supposed to have been learned in high school. I suppose that is true almost by definition, if the waste is the alleged duplication of the teaching costs.

What is sometimes wrongly assumed, however, is that the college remedial learning is exceptionally expensive, more so than the equivalent teaching at the secondary level. This is not at all the case, necessarily. Most of the so-called remedial education at the postsecondary level is actually quite efficient – although the pedagogy is generally quite unimaginative. Such teaching is not taking the time of highly-paid full professors but of minimally-paid graduate students and part-time specialists.

Furthermore, students generally are considerably more mature and motivated than they were "the first time around," when they allegedly should have learned it. I think we have to realize that, for certain students, learning we have come to label "pre-college" is better and more efficiently learned as a young adult, perhaps in a collegiate setting. So I would hate to see a reaction that would discourage across-the-board learning that we might label "remedial" in our colleges, although there is no reason for all colleges or universities to have to accommodate such students.

Mingle: Tell us about the new "Learning Productivity Center" at SUNY-Buffalo.

Johnstone: The center links those interested in research advocacy and implementation of elements of the learning productivity agenda, some of which we have been discussing today. This is an incredibly rich and complex agenda, which can best be approached collectively. An important function of the center will be to keep the theme of learning productivity "on the table." The challenge will be to keep the focus on both cost savings and learning improvements. The premise of learning productivity is that higher

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education, in addition to its roles as guardian of culture, creator of knowledge, and engine of economic growth and social mobility, must also be affordable. And to continue to be affordable, it must become more efficient and productive.

Mingle: Thank you, Bruce. We'll look forward to hearing more about your work.

For more information on the Learning Productivity Center, contact Patricia Maloney, State University of New York at Buffalo, Department of Educational Organization, Administration, and Policy, Graduate School of Education, 468 Baldy Hall, Buffalo, New York 14260. (716) 645-6635. Internet: v050gyzm@ubvms.cc.buffalo.edu.

"Educating Amy" Videoconference Series

A series of live videoconferences, the first of which was broadcast October 3, 1995, is examining the distance student as a catalyst for change in higher education. The Education Network of Maine has studied issues and obstacles affecting distance learners by following a hypothetical student named "Amy" through the complete process of academic advising, registration, library access, billing, and receiving transcripts.

When they discovered that Amy was required to contact over 28 academic departments and administrative offices in the process of taking four distance education courses, the University of Maine System and the Education Network began looking for ways to better serve distance students. The videoconference series is designed to offer insights into Maine's experience as well other models for distance education delivery.

Part I of the series examined the distance learner in both a decentralized and centralized system, and from both a rural and urban environment. Other dates and topics for the series are as follows:

Part II: Amy and Academics
November 29, 1995,
1:00-2:30 p.m. EST

Part III: Student Services Issues
February 1, 1996,
1:00-2:30 p.m. EST

Part IV: Mission, Goals, and Administration
March 5, 1996,
1:00-2:30 p.m. EST

The series is sponsored by the Education Network of Maine with the following co-sponsors: the State Higher Education Executive Officers (SHEEO), Educom, the Western Cooperative for Educational Telecommunications, the New England Board of Higher Education, and the California State University System.

For more information on the "Educating Amy" videoconference series, contact Theresa Allocca, Education Network of Maine, 46 University Drive, Augusta, Maine 04330-9410. (207) 621-3408.

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Let us hear from you . . .

We invite your submissions. We also want to know about other states involved in restructuring efforts. Send your material to Rhonda Epper, *Redesign* Editor, at

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Internet: repper@ecs.org

We'd also like to hear your comments on this newsletter as well as your ideas about how *Redesign* can serve as an effective networking tool for those involved in restructuring higher education delivery systems.

Attention SHEEOs!

Mark your calendars for the next meeting of the

Educom National Learning
Infrastructure Initiative
January 21–23, 1996
at the
Hotel Inter-Continental
New Orleans, Louisiana

SHEEO and the California State University System once again will cooperate in developing agenda items relating to organizational structures for distance learning, costs and benefits of electronic curricula, and other questions of public policy. For more information, contact Rhonda Epper at SHEEO (303-299-3627).

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Redesign EXTRA

Higher Education Delivery Systems for the Twenty-First Century

APPROACHES TO SHORTENING TIME TO DEGREE

Cheryl D. Blanco, Doing More with Less: Approaches to Shortening Time to Degree. A publication of the State Higher Education Executive Officers, fall 1994.

Cheryl Blanco of the Florida Postsecondary Education Planning Commission brings to light an important policy issue for states coping with reduced resources and greater demands for higher education services. What follows is a special preview of her paper prepared for presentation at the annual meeting of the State Higher Education Academic Officers and Government Relations/Communications Officers in Coeur d'Alene, Idaho, August 31, 1994. The paper suggests strategies for shortening time to degree – many relatively easy to implement – that are applicable to diverse settings and targeted at students, institutions, and states.

Defining the Problem

Students are not completing baccalaureate degrees in four years in respectable proportions, according to recent data trends. The National Center for Education Statistics reports that only an approximate 43% of 1990 college graduates completed their baccalaureate degrees within four years or less. After six years, says NCES, this figure was 81%. At public institutions – those likely to be of most interest to policymakers – reports on cohort studies of first-time, full-time students show an even wider range: 15% to 33% had completed after four years and from 42% to 61% after six years.

In state capitols across the nation, policymakers are voicing their discontent with these data. Legislators have come to see lengthened time to degree as a problem that involves unnecessary drain on resources, reduced access to postsecondary education, and additional student loan burden. When the four-year bachelor's degree becomes a six-year program, as is happening with increasing frequency, it means two more years of demand on campus facilities, two more years of student loans, and two years fewer for graduates to participate in the nation's workforce. As a result, talk about incentives and strategy to shorten time to degree is becoming more common in SHEEO offices around the country.

There are complex reasons why today's students often take longer to complete their academic programs:

Lack of academic preparation – Many national studies have shown that entering students frequently are not prepared to do college-level work. The Southern Regional Education Board, for example, reports that only 38% of Southern high school graduates in 1990 had taken college preparatory courses.

Personal and family financial challenge – Many students have family responsibilities and work part or full time to support themselves while studying. For some, insufficient financial assistance is available to substitute for personal contributions.

Curricular changes and scheduling problems – Some students change majors, are unable to enroll in classes needed for graduation, lose credits by transferring from other institutions, or are unable to receive timely advising services.

Limited marketplace opportunity – Students sometimes prefer to stay in school rather than face a difficult job market and the assumption of repayment schedules for their educational loans.

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Constrained institutional resources – Attempting to meet too many demands with too few resources, institutions may be disinclined to push students faster because of the revenue and filled classrooms that they represent.

No one, simple solution can address all these circumstances. In states that have taken steps to encourage shortened time to degree, a variety of strategies have been needed to meet widely different student needs and institutional missions. This has required clear thinking about the purposes of shortening the time to degree, in particular whose interests are being served and what outcomes are being sought.

Approaches to Shortening Time to Degree

A number of approaches to shortening time to degree have emerged, some more widely implemented than others. Among the more usual approaches are the following:

Control/reduction of the number of credits required for the degree – At many institutions, proliferation of requirements has lengthened the time needed to graduate. In response, institutions and their system boards that annually monitor program length are now including review of bachelor's programs. Wisconsin, for example, is focusing on credits to the degree rather than time to the degree.

Increased use of acceleration mechanisms – Acceleration mechanisms such as advanced placement, dual enrollment, early admissions, and the College Level Examination Program have been targeted to shorten the time needed for degree completion. As a result, articulation agreements between high schools and colleges are becoming more common, allowing high school students to earn college credit. Oregon's College High Program, for example, offers courses to approximately 3,400 students who pay reduced tuition.

Maximized use of summer school – Reduced summer session tuition has been used to encourage students to get a head start on their programs and also to increase year-round use of institutional facilities. Since 1981, students entering Florida's public universities with less than 60 semester credit hours have been required to earn at least 9 semester hours prior to graduation by attending one or more summer sessions.

Increased use of technology and distance learning – Technology has been used to accelerate degree progress by offering sections of high-demand courses and to permit students to complete degree programs through distance learning. In a new effort, the University of South Florida will allow engineering students greater access to core courses through a consortium of state universities that will rotate offerings via distance learning.

Compressed semesters – As a variation on the three-year baccalaureate achieved through acceleration mechanisms, compressed semesters have been used to offer in three years the same material usually covered in four. Albertus Magnus College in Connecticut has compressed its academic calendar into a tri-session structure: 15-week semesters were cut to 13 weeks, a third session was added at the end, and class length was increased to provide the same number of teaching hours. This approach was preferred by 80% of new students and 75% of continuing students.

Making Change Attractive

In states where these initiatives to shorten time to degree have been attempted, fiscal constraints and productivity/accountability demands have been the great catalysts. Institutions, students, and faculty, however, have not always been convinced there is a problem. In order to make efforts to shorten time to degree more attractive, creative strategies will be needed if change is to come about.

Institutional Incentives

- Financial awards for performance – Institutions can be rewarded when they can demonstrate an increase in the percentage of graduates finishing in less-than-normal time. Ideally, incentive money would flow directly to departments or colleges, perhaps to be used to reward faculty for outstanding teaching or students who finish early.
- Earmarking of special funds to support shortened time-to-degree initiatives – Institutions can be allowed to retain savings from accountability and productivity initiatives or funds generated from tuition and fees and apply those resources to shortening time to degree.

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- Limiting of state subsidized education – Institutions can be penalized if students take excessive numbers of credits. California has legislated a "duplicate degree charge," assessed on students enrolled for a second degree at the same or lower level than their first degrees.

- Direct faculty rewards – Rewards for shortened time to degree can be tied to teaching. National interest in rewarding teaching may make it easier to open more sections, particularly of the high-demand courses required for graduation.

- Awarding of degrees for competency attainment – A degree defined in terms of competencies would make "time" to degree completion a non-issue since the emphasis of the educational experience shifts away from "course time" and "seat time." Virginia, for example, is discussing competency-based credentialing as means of assessing student skills at entry.

Student Incentives

- Awards for graduation – Incentive awards can be given to students for not exceeding by more than a small percentage the number of credits required for the degree or for graduating within three years.

- Limitation of course credits used to define adequate progress toward a degree – Excessive credit accumulation can be discouraged by limiting the number of credit hours for which a student can enroll both inside and outside the discipline.

- Implementation of an excess-credit surcharge – The cost per credit hour can be increased for every credit that exceeds a percentage of the number of credits required for the degree. Effective fall 1994, North Carolina undergraduates will be assessed a 25% tuition surcharge if they take more than 140 credits (110%) to complete a baccalaureate degree.

- Increased full-time credit loads – Students can be encouraged to enroll for more than 12 credit hours each semester. Reduced tuition can be offered for course loads of more than 15 credits, and minimum loads can be raised.

- Improved Academic Advising – In addition to ensuring that students are on track with the correct courses taken in the proper sequence, early academic advising can alert students and their parents to the institution's expectation that the student be responsible for maintaining adequate progress toward a degree.

- Tuition rebates for using selected technology or time slots – Students can be rewarded when they make use of low-demand time slots and distance learning opportunities to finish their degrees in fewer than four years.

- Elective credit for service learning – Service learning can be incorporated into the curricula to provide an opportunity to shorten time to degree by offering elective credit for the service hours.

Evaluating Effectiveness and Maintaining Quality

Two concerns constantly circle "shortened time to degree" conversations. These are effectiveness and quality, particular concerns with compressed semesters and other three-year baccalaureate programs.

Preliminary reaction to three-year degree programs suggests that students and faculty are very concerned about quality: Is the compressed course as rich and effective as its longer cousin, even though both purport to cover the same material? At this point, the impact or quality of existing strategies to shorten time to degree is unknown because few states or institutions have evaluated the effectiveness of their alternatives. Evaluation of factors that enhance or impede progress toward a degree is critical. In doing so, states and institutions must ensure that expectations are high – that quality and continuous evaluation of effectiveness are integral components of all strategies.

Institutions, systems, and states range along a continuum from having done little to examine the issue of extended time to degree all the way to legislated "remedies." The preeminent question for policies and strategies concerning shortened time to degree is whether these alternatives are educationally and economically sound. What is evident from conversations with state higher education officers and review of state materials is that, when talking about the need to have students graduate expeditiously, the volcano is rumbling.

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A central purpose of SHEEO's Redesign project and newsletter is to air creative ideas for redesigned higher education delivery systems. Periodically, we will examine issues of interest to our readers in special reviews published through Redesign *EXTRA*.

In this issue, we offer a compressed version of Cheryl D. Blanco's study on time-shortened degrees. Complete copies of her work, Doing More With Less: Approaches to Shortening Time to Degree will be available fall 1994 for $10.00 prepaid from SHEEO, 707 17th Street, Denver CO 80202-3427. Phone orders with purchase order numbers only; no credit cards, 303-299-3686.

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